

# Exhibit 114



June 20, 2023

Mr. Kevin Hynes  
King & Spalding LLP  
1185 6th Avenue  
New York, NY 10036

Re: Revision 1 - Rebuttal of Dr. Longo MAS Report Dated 02/28/2023 Project Number M71614

Dear Mr. Kevin Hynes,

I have reviewed the report of Dr. Longo of MAS dated February 28, 2013 with project number M71614 wherein one bottle of Johnson & Johnson Baby Powder is tested. I have also reviewed a 21-page document (including cover letter) which consists of four sets of images of what is alleged to be Calidria chrysotile spiked into a talcum powder at 0.05% with no corresponding MAS project number, but with image captions of "SG210 Calidria Chrysotile." Lastly, I have reviewed three sets of PLM images with MAS number M69562 and sample numbers -001, -002, and -003 which are PLM images of the Calidria chrysotile that Dr. Longo uses as a comparative to claim proof that he is finding chrysotile in the sample of Johnson & Johnson baby powder.

Dr. Longo continues to deviate from generally accepted methodologies and known refractive indices ranges of chrysotile. A significant change in approach that I have not previously opined on is that the new image sets described above are taken using a 1.560 refractive index liquid, instead of the previously used 1.550 refractive index liquid. In fact, the data presented by Dr. Longo using the 1.560 liquid for the alleged polarized light microscopy chrysotile findings are self-contradictory and only further support his erroneous misidentification of talc on edge as chrysotile.

In review of the images produced as evidence of the alleged observed chrysotile, there are multiple errors that are clear with these images. First, the colors of the alleged spiked Calidria Chrysotile using central stop dispersion staining (CSDS) are the same color as the talc matrix material. This is illustrated in Figure 1. This image is taken using CSDS and is alleged to be chrysotile; however, it exhibits the same CSDS color as the talc surrounding it, a yellow color in the 1.560 liquid. This same observation is true of all the alleged chrysotile image sets in the spiked sample as well as the Johnson & Johnson Baby Powder sample.

As a matter of first principles regarding identity, if the CSDS colors of the talc were the same as chrysotile, then the CSDS colors cannot be used to identify either the talc or the chrysotile when both are present; in other words, if the CSDS colors of two discrete minerals are the same, the CSDS colors cannot be used to determine the identity of the two discrete minerals, yet this is exactly what Dr. Longo claims to be able to do. A logical fallacy. Instead, there are other confirmatory techniques that can be used to discriminate the talc from the chrysotile that is being alleged to be present by plaintiff's experts. MAS has failed to conduct any such test. A logical and relatively straightforward test would be analysis by transmission electron microscopy (TEM), a test that Dr. Longo has the capability to perform and yet for over three years has failed to employ to support his novel findings of chrysotile in Johnson & Johnson Baby Powder by PLM.

It should be stated that the refractive index ranges of talc both as plates and as plates on edge are different from that of chrysotile, thus the use of refractive index measurements using CSDS (or other refractive index measurement techniques) can in fact differentiate between them. Further, I have had this sample tested by TEM and found no chrysotile even with analytical sensitivities far below the concentrations reported by Dr. Longo of 0.002 – 0.004%.

Another critical issue that I have not previously reported on is that when interpreting CSDS colors, an adequate exposure setting must be used. A simple example of the effect of underexposed CSDS images is provided in Figure 2 where a Cargille 1.57 glass standard is immersed in a 1.5600 liquid. The upper left image is an underexposed photograph of the CSDS color. Since glass is isotropic (same refractive index in all directions) the dispersion staining color should be the same on all sides; however, as the interaction of light and its refraction is dictated by the angles at the edges of the particle (See Sanchez rebuttal report dated March 4, 2021) this particle exhibits different edge conditions and thus different intensities of the same CSDS color. This illustrative 1.57 glass particle is triangular. The left side appears orange in color, the right magenta, and the bottom is not visible under this camera exposure condition. The apparent difference in color is controlled by the edge effects. The bottom left image is the same Cargille 1.57 glass grain now using the appropriate amount of camera exposure. Note that now all three of the sides can be seen and we see a more magenta hue on each side. The use of the 1.57 glass is also a good surrogate to illustrate what the CSDS colors being interpreted by MAS should be; if chrysotile is indeed present with a refractive index of approximately 1.57, it will exhibit the same CSDS color as the glass for  $\gamma$ . As will be illustrated below, this is not the case. The images on the right in Figure 2 are the same experiment as those on the left, however this time the 1.57 glass has been spiked into the M71614-001 Baby Powder sample. Note that the CSDS color of the glass is the same both in the presence of talc and without talc. The CSDS color is a function of the grain and the liquid, not other particulate that may be present. Thus, if you spike a sample with a known entity, that known entity will exhibit the same properties both before and after the spiking.

Figure 3 provides two published charts on how to convert CSDS color to wavelength of match. These will be needed for context for the rest of the report.

To test the hypothesis of Dr. Longo that he is finding Calidria type chrysotile in the Johnson & Johnson sample, I have systematically compared each of his alleged chrysotile particles' CSDS colors with those of the Calidria material itself as provided by MAS and Dr. Longo. To start, I compare the Calidria material spiked into a talcum powder by MAS. Figures 4a and 4b through Figures 7a and 7b directly compare what Dr. Longo is identifying as chrysotile in a spiked sample with the raw material itself. MAS provided four sets of images and each figure presents the comparison in the same manner such that the parallel or  $\gamma$  direction is (a) and the perpendicular or  $\alpha$  direction is (b). In each case, the raw Calidria images do not display the same or even similar dispersion staining color as the other particles. Each of the four particles have refractive indices greater in relation to  $\gamma$  and much lower in relation to  $\alpha$  than that of the reference Calidria chrysotile material. Table 1 presents a summary of the refractive index and birefringence as reported by MAS for each of these four particles. MAS provided the refractive index values, and I used the work of Dr. Su to convert to wavelength of match as described in Bloss 1999, Su 2003, and Su 2020. Note that the reported refractive indices of each particle for  $\gamma$  are 490nm, 490nm, 490nm, and 500 nm, respectively. The CSDS colors for these wavelengths can be described as magenta by reference to the charts shown in Figure 3, however, none of the alleged chrysotile particles in the spiked sample exhibit this color. Rather, they all exhibit a yellow color that corresponds with a wavelength of match of less than 440nm, which in turn corresponds with a much higher refractive index than any of the Calidria material.

Regarding  $\alpha$ , the matching wavelength data interpreted by MAS are 750nm, 700nm, 630nm, and 630nm, respectfully. The CSDS colors for these wavelengths can all be described as light blue, in contrast to that of the Calidria material which is dark blue. Again, not the same CSDS color. Thus, while Dr. Longo may have indeed spiked a talc sample with 0.05% of the Calidria chrysotile sample in his possession, these particles he has identified as chrysotile in the spiked sample do not match that of the spiked chrysotile. They do, however, match talc plates on edge. Because of the clear error here by MAS of misidentifying talc as Calidria chrysotile in a spiked sample, it is utterly wrong to use these spiked images as a comparative to the unknown Johnson & Johnson Baby Powder sample to support the finding of chrysotile.

I next compared the MAS alleged chrysotile particles'  $\gamma$  and  $\alpha$  measurements in the Johnson & Johnson Baby Powder sample to that of the Calidria chrysotile images. I have made the same comparisons in Figures 8a and 8b through Figures 11a and 11b for these alleged chrysotile findings as previously discussed for Figures 4 through 7. Table 2 presents a summary of the refractive index and birefringence of MAS data for each of these four particles. MAS provided the refractive index values, and I used the work of Dr. Su to convert to wavelength of match as described in Bloss 1999, Su 2003, and Su 2020. The same errors are found here as described above, however, in this case the misinterpretation of CSDS colors is further from the actual CSDS color exhibited. With respect to  $\gamma$ , MAS reports 560nm, 550nm, 510nm, and 510nm wavelength of match where the corresponding CSDS colors are purple and magenta. None of these particles exhibit such a CSDS color. Thus, Dr. Longo and MAS have misidentified talc as chrysotile.

Dr. Longo provided image sets of two particles from the Johnson & Johnson Baby Powder that he identifies as talc. I agree with him in this identification. Ironically, when I compared to the CSDS colors of the provided MAS images for both  $\gamma$  and  $\alpha$  of the talc and alleged chrysotile reported in the same sample, the CSDS colors are the same. Figures 12a and 12b through Figures 15a and 15b show these comparisons. The CSDS colors observed are now the same for both the identified talc and chrysotile, thus they have the same refractive indices and are both consistent with talc, not chrysotile. This is further support of the misidentification of talc as chrysotile by MAS in the Johnson & Johnson Baby Powder sample.

I interpreted the CSDS colors of each of the MAS alleged chrysotile images for  $\gamma$  and  $\alpha$  and present this data in Table 3. In each case the CSDS colors are in areas at the edges and beyond the visible spectrum (400nm to 700nm) and thus appear as yellow ( $\gamma$ ) and light blue ( $\alpha$ ). Further, the correct birefringence estimates based on the MAS data are also provided. In each case, the birefringence is greater than 0.025, well beyond that of chrysotile. This is supported by the interference colors of each alleged chrysotile provided by MAS as observed in cross polarized light. I have also plotted the MAS interpreted color with matching wavelength with the MAS image for the same particles in Figures 16a through Figures 19a. In no case for  $\gamma$  is the CSDS color interpreted correctly. Figures 16b through 19b are my interpretation of the CSDS color exhibited in the images and how they correspond to the color charts.

### **Calidria Chrysotile in 1.560 Cargille E liquid**

Figure 20 is a typical field of view (FOV) image of Calidria Chrysotile. Appendix L contains 57 FOV images of Calidria chrysotile in 1.560 Cargille E liquid using CSDS. Upon review of these images, the higher index mineral that Dr. Longo claims is chrysotile—and that which he uses to support his chrysotile findings in this Johnson & Johnson Baby Powder sample—is an extremely minor mineral phase within the Calidria material. The majority of the material when immersed in a 1.560 liquid has CSDS colors ranging from sky blue through red-purple as a function of particle orientation to the lower polarizer, or in terms of  $\lambda_o$ ,

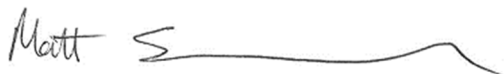


ranging from 620 to 500 nm. To claim that Calidria chrysotile exhibits yellow CSDS colors as characteristic in a 1.560 liquid is inaccurate.

In conclusion, Dr. Longo continues to misidentify talc on edge as chrysotile by PLM.

I respectfully reserve my right to amend this report as more information is made available to me.

Sincerely,

A handwritten signature in black ink, appearing to read "Matt S", followed by a long, horizontal, wavy line.

Matthew S. Sanchez, PhD  
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724 387-1947

Attachments:

Appendix A – PLM Field of View Images of Calidria Chrysotile in 1.560 Cargille E Liquid.

Reference cited

Bloss, F.D. (1999) Optical Crystallography. Mineralogical Society of America. Monograph Series, Publication #5.

ISO 22262-1 (2012) Air quality – Bulk materials – Part 1: Sampling and qualitative determination of asbestos in commercial bulk materials.

Su, S.C. (2020) Determination of Refractive Indices of Asbestos Minerals by Dispersion Staining: Why and How. Revision 2020-06-30. Personal Communication. Shu-Chun Su, Technical Assessor and Expert for NVLAP Bulk and Airborne Asbestos Programs.

Su, S.C. (2003) A Rapid and Accurate Procedure for the Determination of Refractive indices of Regulated Asbestos Minerals. American Mineralogist, 88, 1979-1982.

**Table 1. Compilation of MAS data for its alleged Calidria chrysotile spiked into talc PLM data.  $\lambda_0$  is calculated using the conversion charts as published by Dr. Su 2003, 2020 and Bloss 1999 and assuming a temperature of 22°C. This data assumes that MAS's interpretation of  $\lambda_0$  is reasonable (which it is not).**

Particle	Max $\lambda_0 \gamma$ (nm)	Min $\lambda_0 \alpha$ (nm)	Max $\gamma$ (N)	Min $\alpha$ (n)	$\delta$ (NM-nm)	$\delta$ (N-n)
Standard	490	750	1.571*	1.553	260	0.018
Standard 2	490	700	1.571*	1.555*	210	0.016
Standard 3	490	630	1.571	1.559	140	0.012
Standard 4	500	630	1.570	1.559	130	0.011

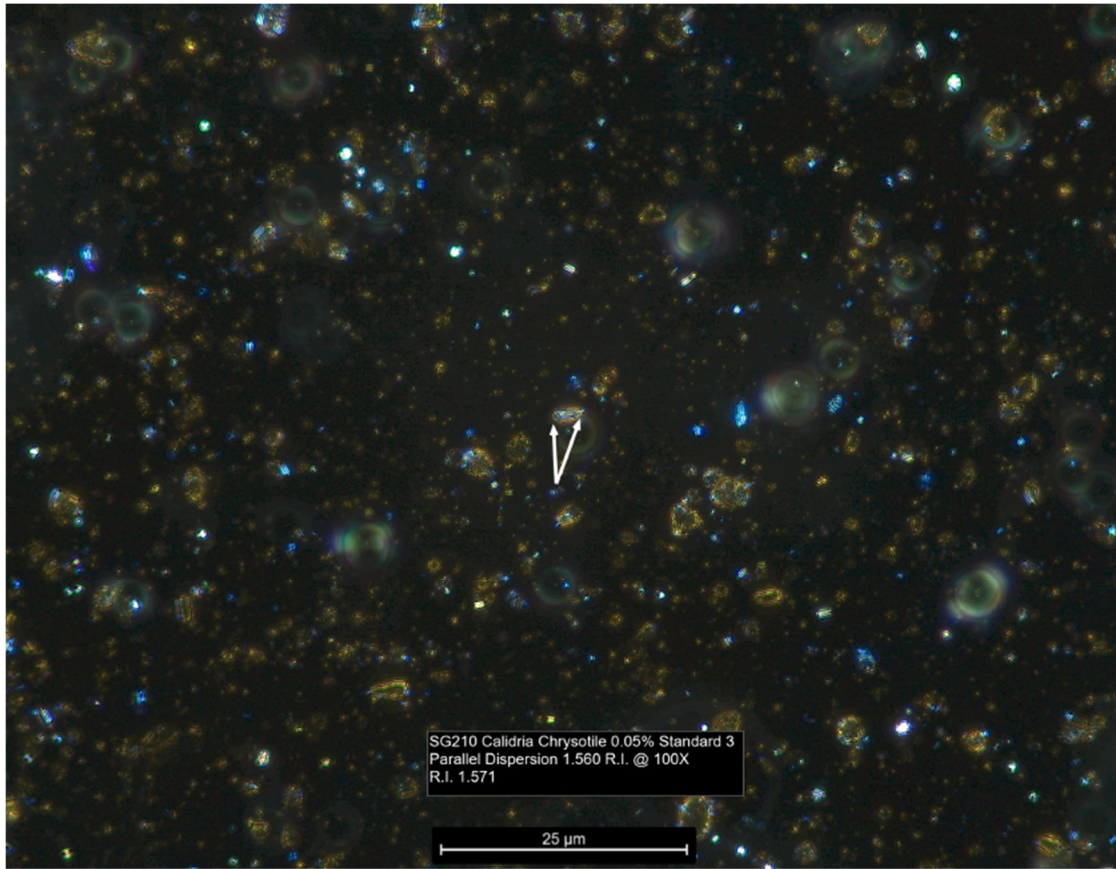
\*MAS comment "impacted by bundle thickness" is non-sensical as the thickness of a particle does not affect the measurement of refractive index.

**Table 2. Compilation of MAS data for its alleged chrysotile PLM data.  $\lambda_0$  is calculated using the conversion charts as published by Dr. Su 2003, 2020 and Bloss 1999 at 22°C. This data assumes that MAS's interpretation of  $\lambda_0$  is reasonable (which it is not).**

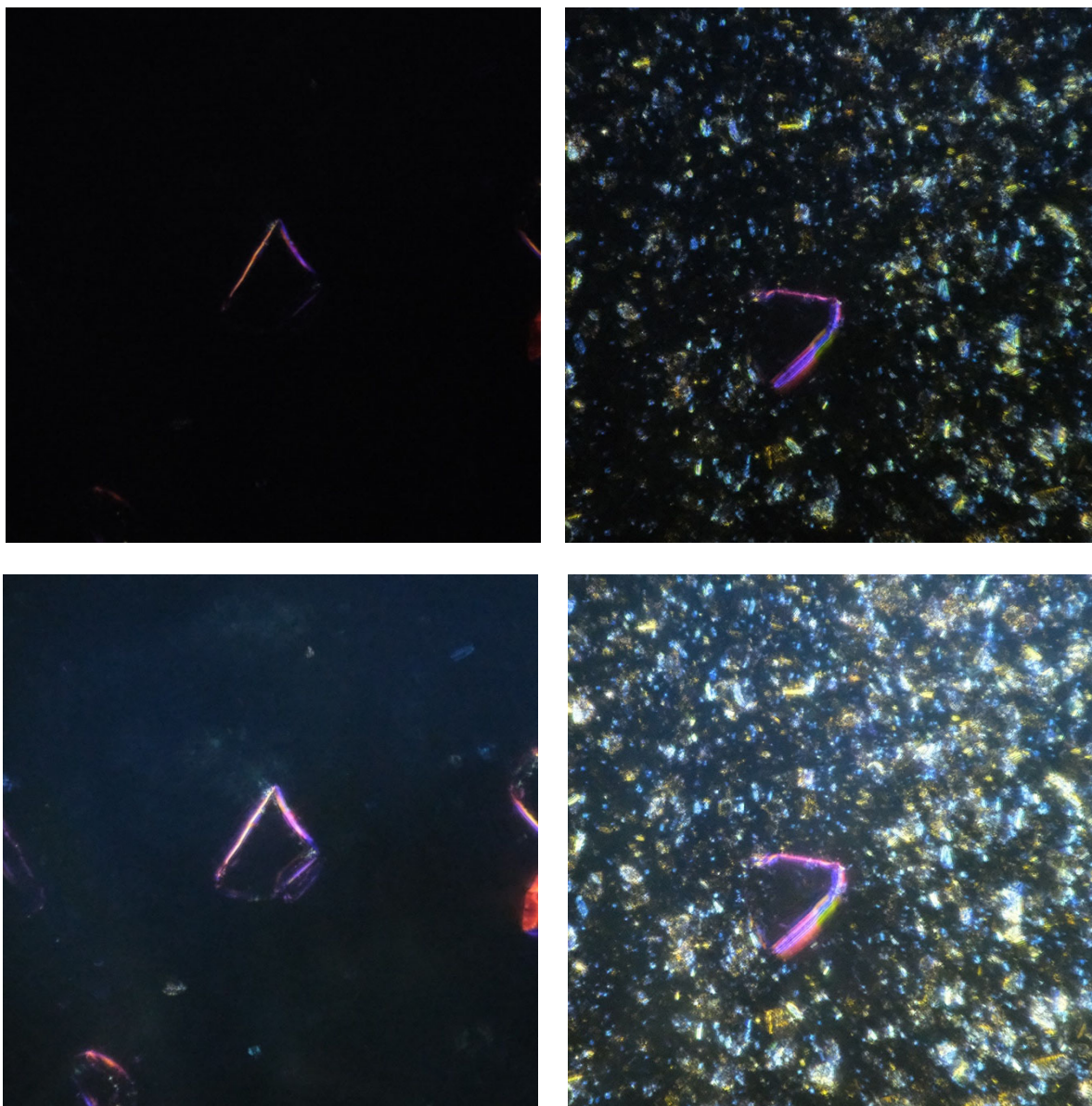
Particle	Max $\lambda_0 \gamma$ (nm)	Min $\lambda_0 \alpha$ (nm)	Max $\gamma$ (N)	Min $\alpha$ (n)	$\delta$ (NM-nm)	$\delta$ (N-n)
-001	560	600	1.564	1.561	40	0.003
-002	550	600	1.565	1.561	50	0.004
-003	510	650	1.568	1.557	140	0.011
-004	510	610	1.568	1.560	100	0.008

**Table 3. Correct interpretation of the MAS alleged chrysotile PLM data.  $\lambda_0$  is calculated using the conversion charts as published by Dr. Su in Bloss 1999 at 22°C. It is clear from this data that these particles are talc, not chrysotile.**

Particle	Max $\lambda_0 \gamma$ (nm)	Min $\lambda_0 \alpha$ (nm)	Max $\gamma$ (N)	Min $\alpha$ (n)	$\delta$ (NM-nm)	$\delta$ (N-n)
-001	< 400	> 700	> 1.580	< 1.555	> 260	> 0.025
-002	< 400	> 700	> 1.580	< 1.555	> 260	> 0.025
-003	< 400	> 700	> 1.580	< 1.555	> 260	> 0.025
-004	< 400	> 700	> 1.580	< 1.555	> 260	> 0.025



**Figure 1. MAS sample S210 Calidria chrysotile spiked into talc where the purported chrysotile has the same refractive index as the talc as attested by the same dispersion staining colors. This is not chrysotile, but talc.**



**Figure 2. Effect of camera exposure time on interpretation of CSDS colors using 1.57 Cargille glass in 1.560 liquid. The upper left image is under exposed while the bottom left image is properly exposed. Note that the wavelength of match is around 500nm for the images when proper exposure settings are used. The top right image is the 1.57 Cargille glass spiked into the Johnson and Johnson Baby Powder underexposed. The bottom right is the same image with a proper exposure setting. Note that the CSDS colors are the same for the glass regardless of presence of the talc sample.**



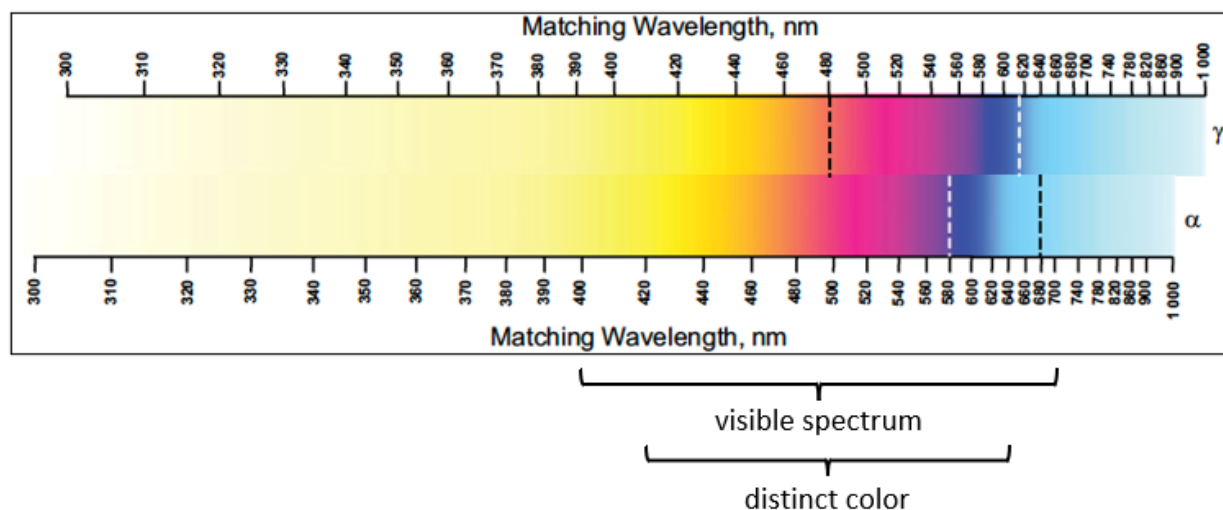
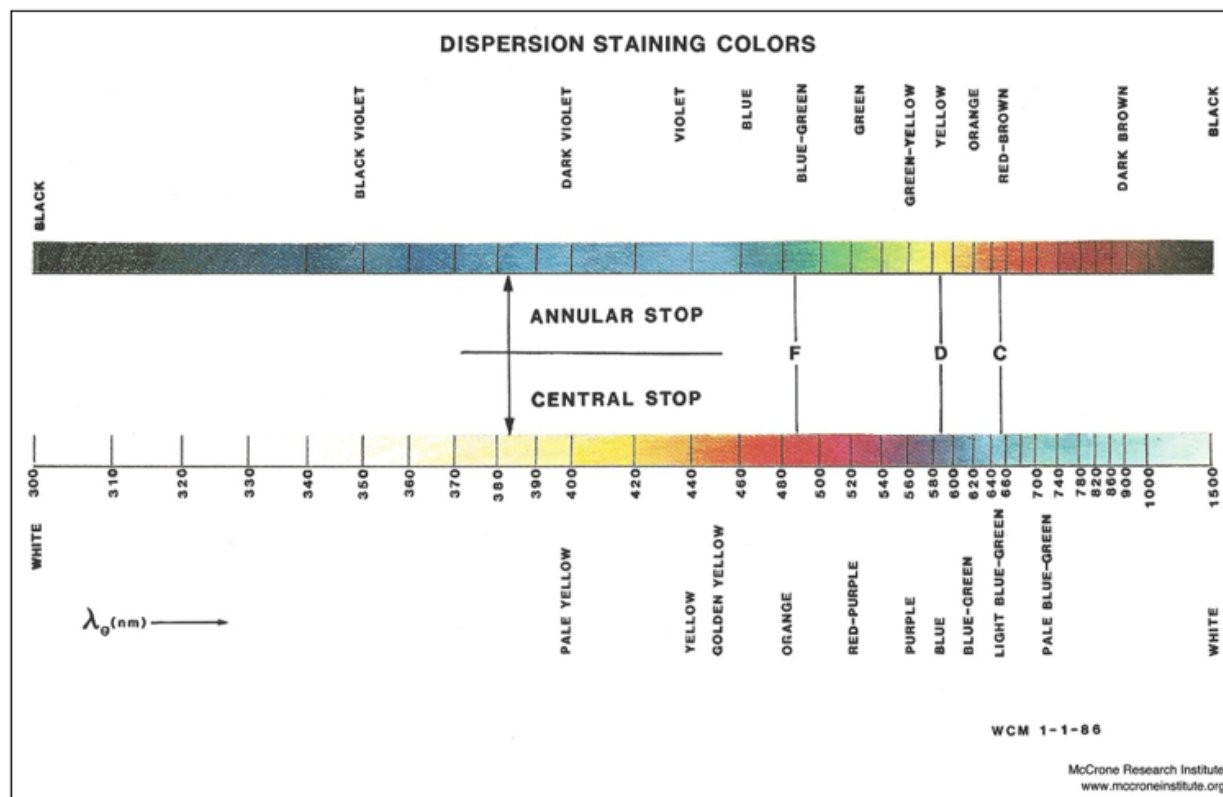


Figure 3. Adaptation after McCrone (available at MCRI website) representing the colors observed using both annular and central stop dispersion staining. The bottom image is the central stop dispersion staining portion after ISO 22262-1.

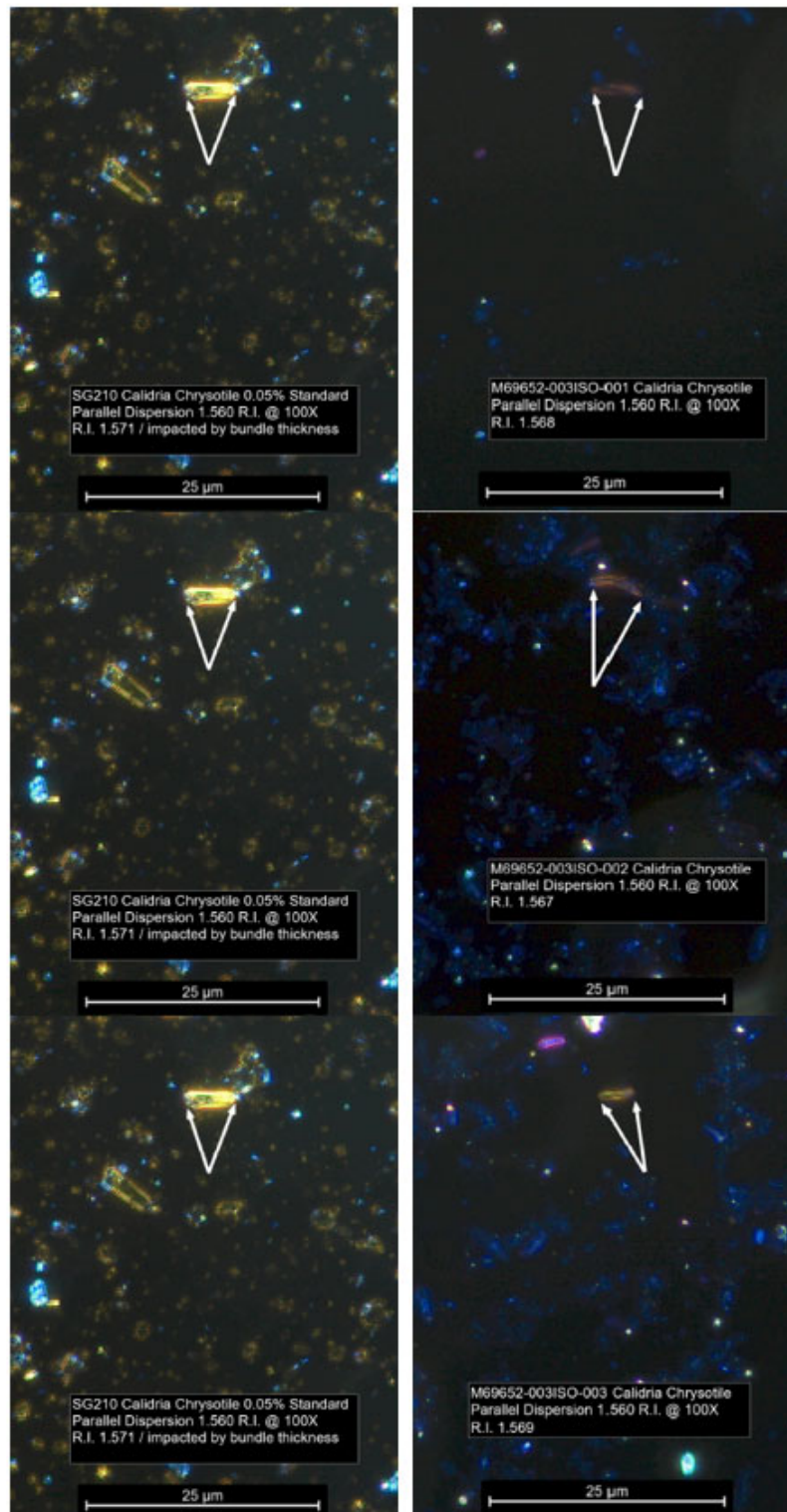


Figure 4a. Images on the left are “Calidria Chrysotile Standard” particle compared to the three particles (right) identified as Calidria by MAS. In no case are the CSDS colors the same.

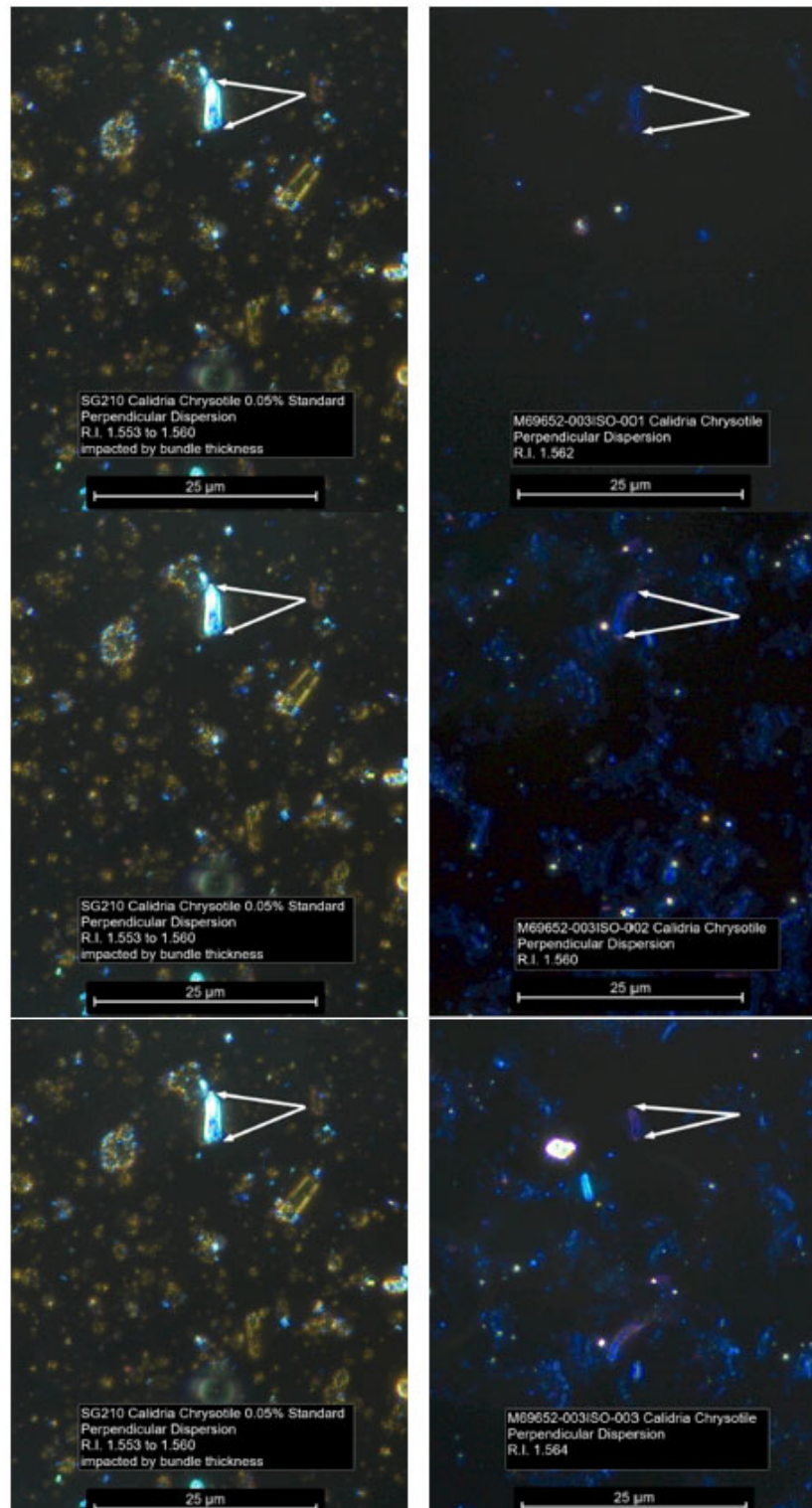


Figure 4b. Images on the left are “Calidria Chrysotile Standard” particle compared to the three particles (right) identified as Calidria by MAS. In no case are the CSDS colors the same.



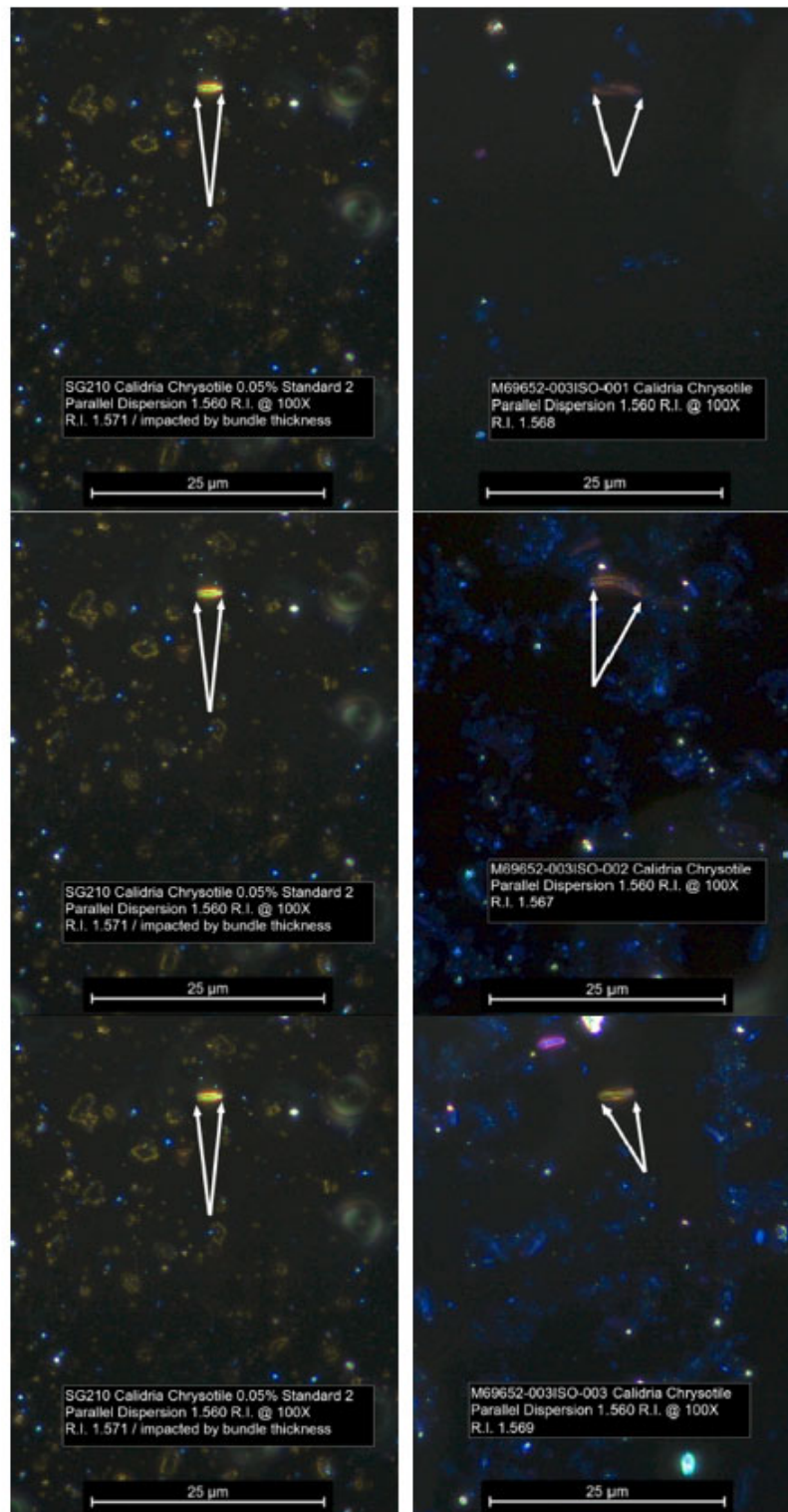


Figure 5a. Images on the left are "Calidria Chrysotile Standard 2" particle compared to the three particles (right) identified as Calidria by MAS. In no case are the CSDS colors the same.

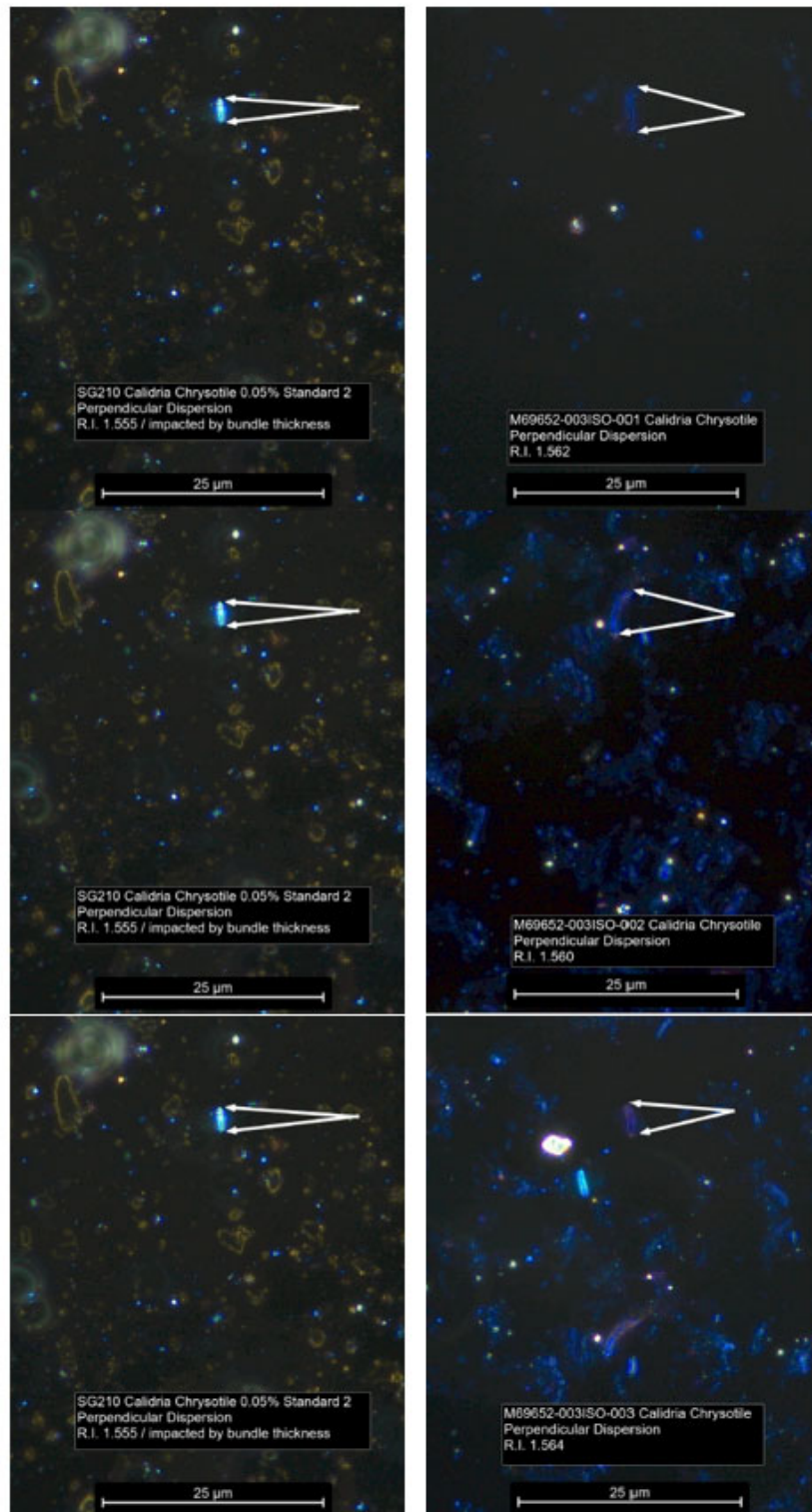


Figure 5b. Images on the left are “Calidria Chrysotile Standard 2” particle compared to the three particles (right) identified as Calidria by MAS. In no case are the CSDS colors the same.

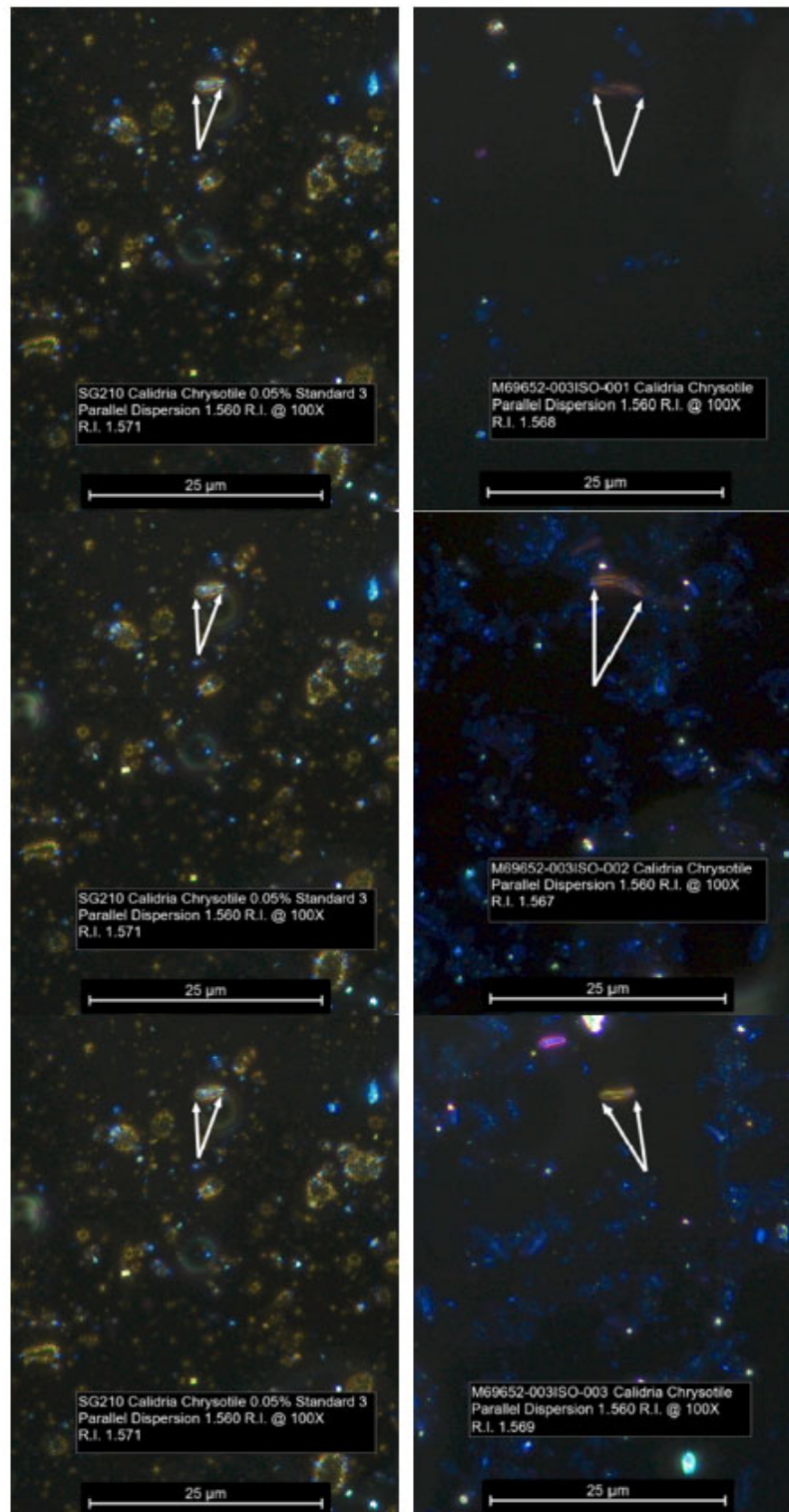


Figure 6a. Images on the left are “Calidria Chrysotile Standard 3” particle compared to the three particles (right) identified as Calidria by MAS. In no case are the CSDS colors the same.



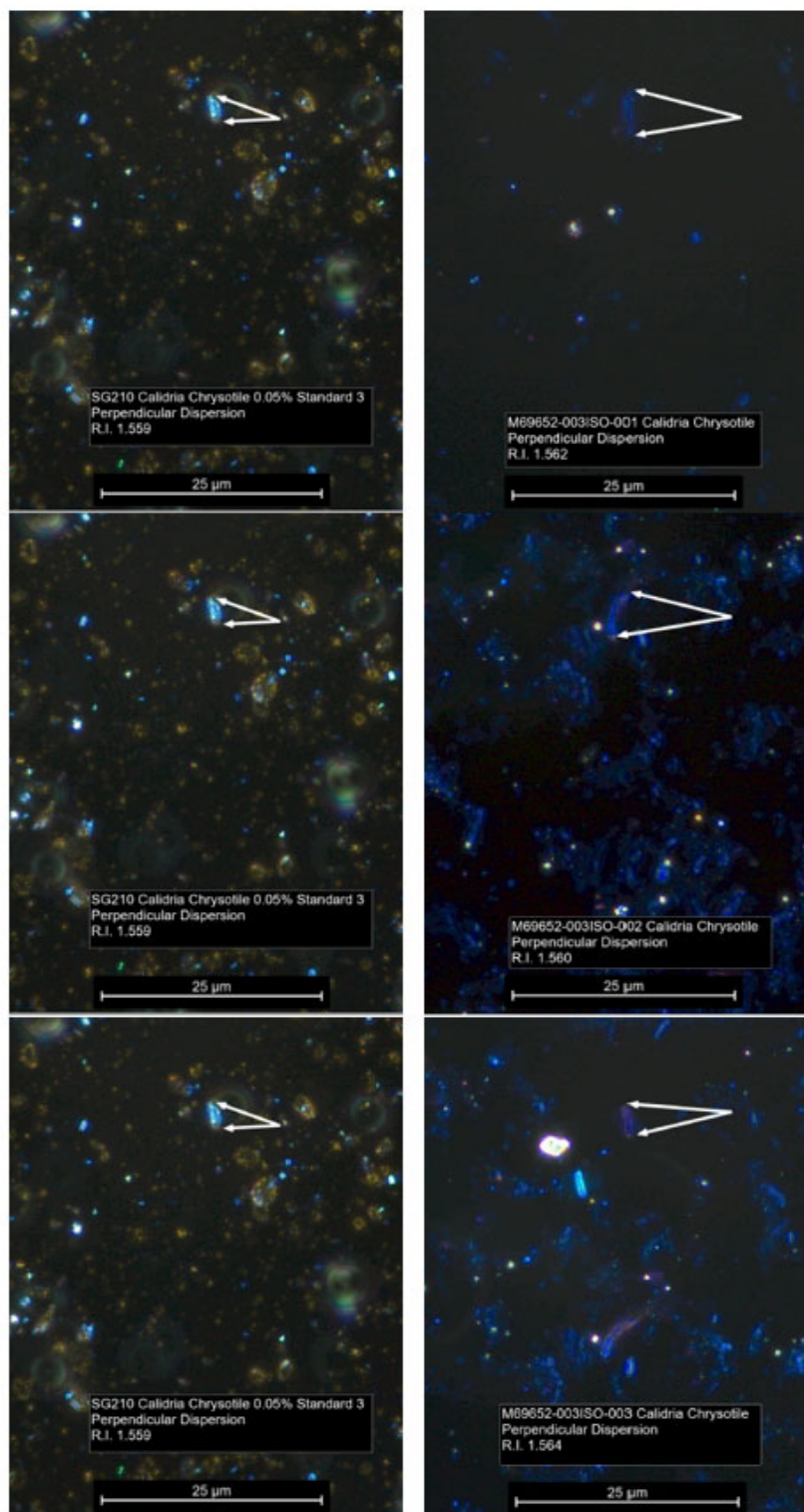


Figure 6b. Images on the left are “Calidria Chrysotile Standard 3” particle compared to the three particles (right) identified as Calidria by MAS. In no case are the CSDS colors the same.

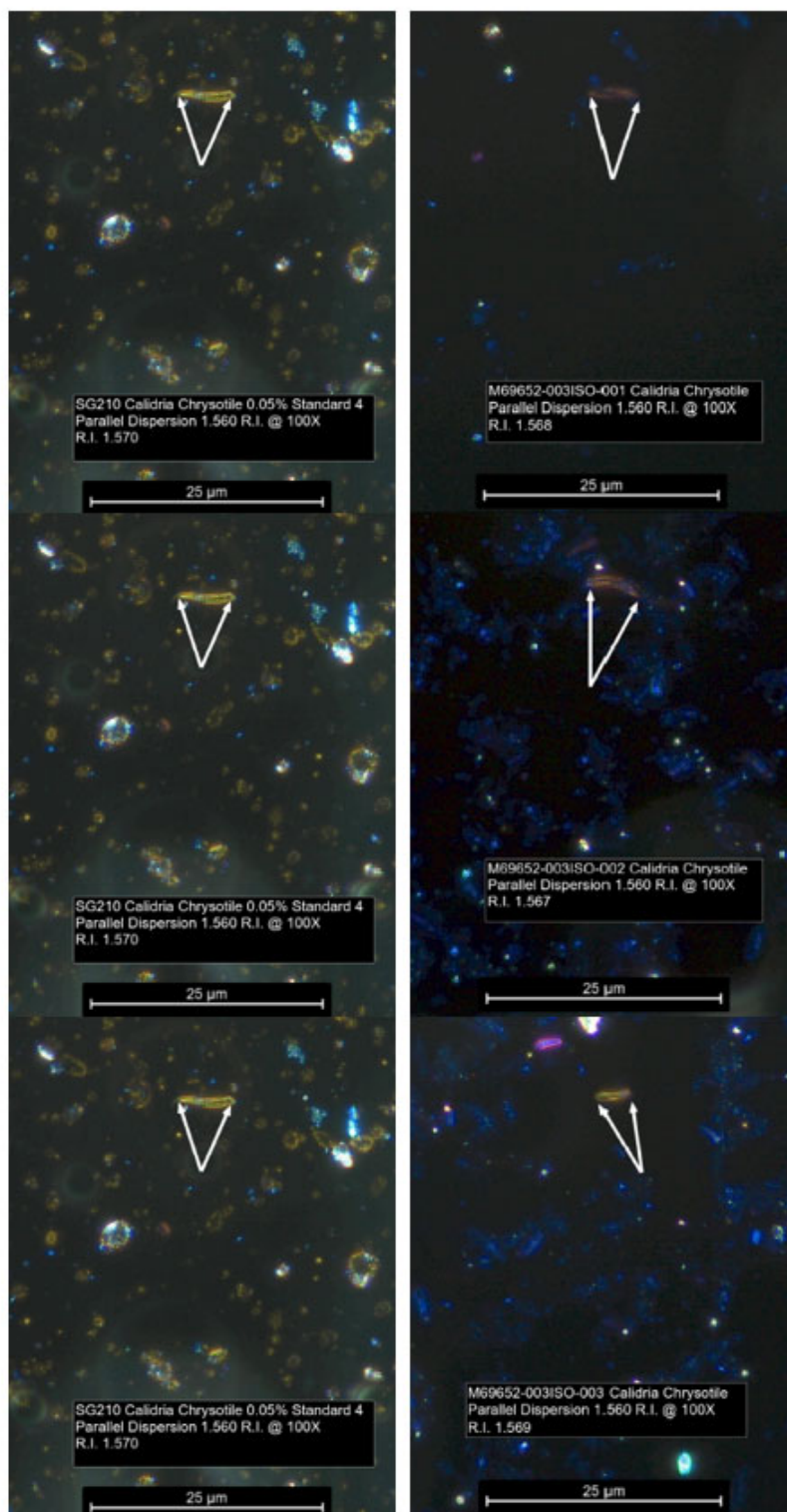


Figure 7a. Images on the left are "Calidria Chrysotile Standard 4" particle compared to the three particles (right) identified as Calidria by MAS. In no case are the CSDS colors the same.

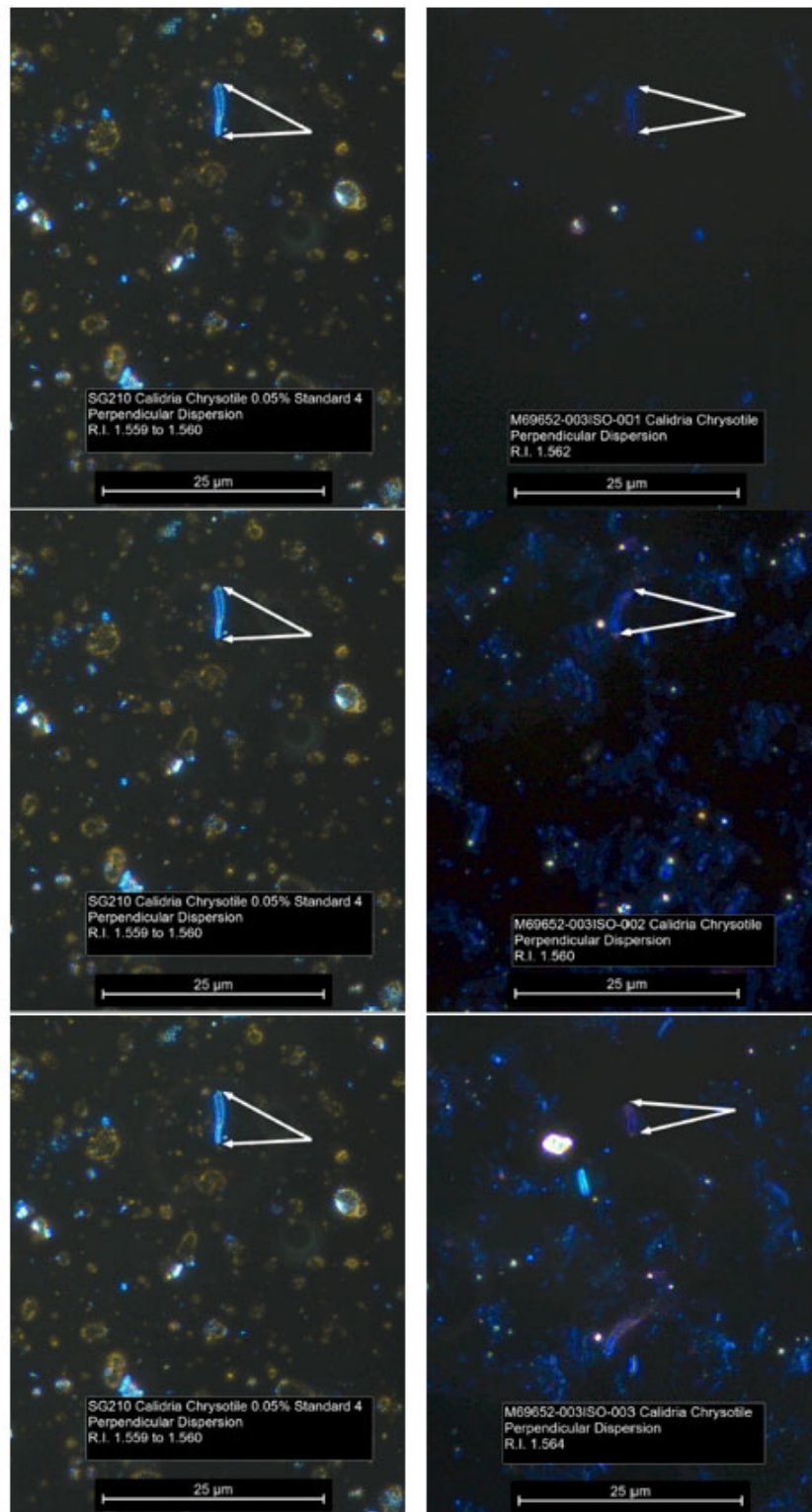


Figure 7b. Images on the left are “Calidria Chrysotile Standard 4” particle compared to the three particles (right) identified as Calidria by MAS. In no case are the CSDS colors the same.



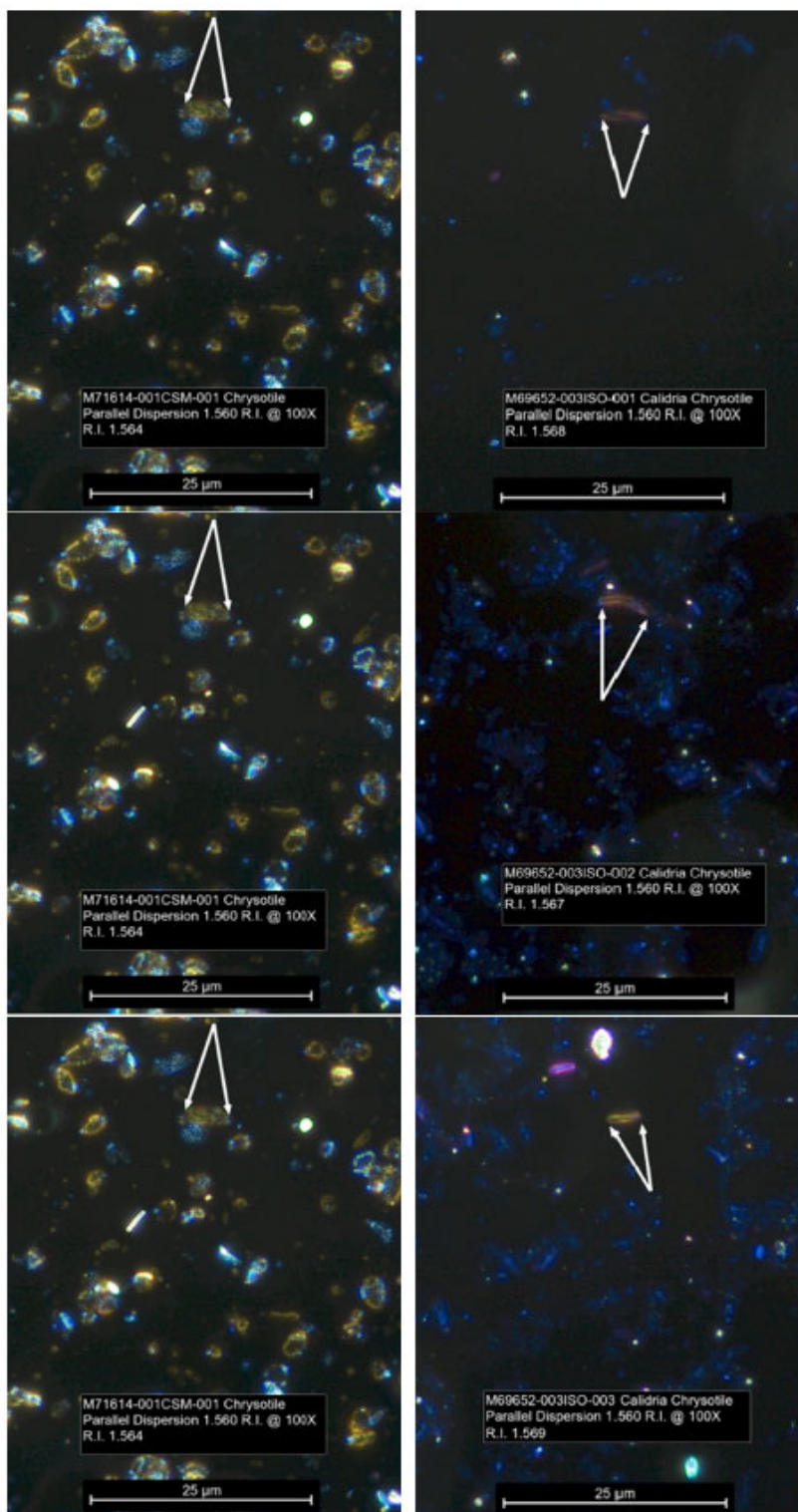


Figure 8a. Images on the left are “M71614-001CSM-001” particle compared to the three particles (right) identified as Calidria by MAS. In no case are the CSDS colors the same.



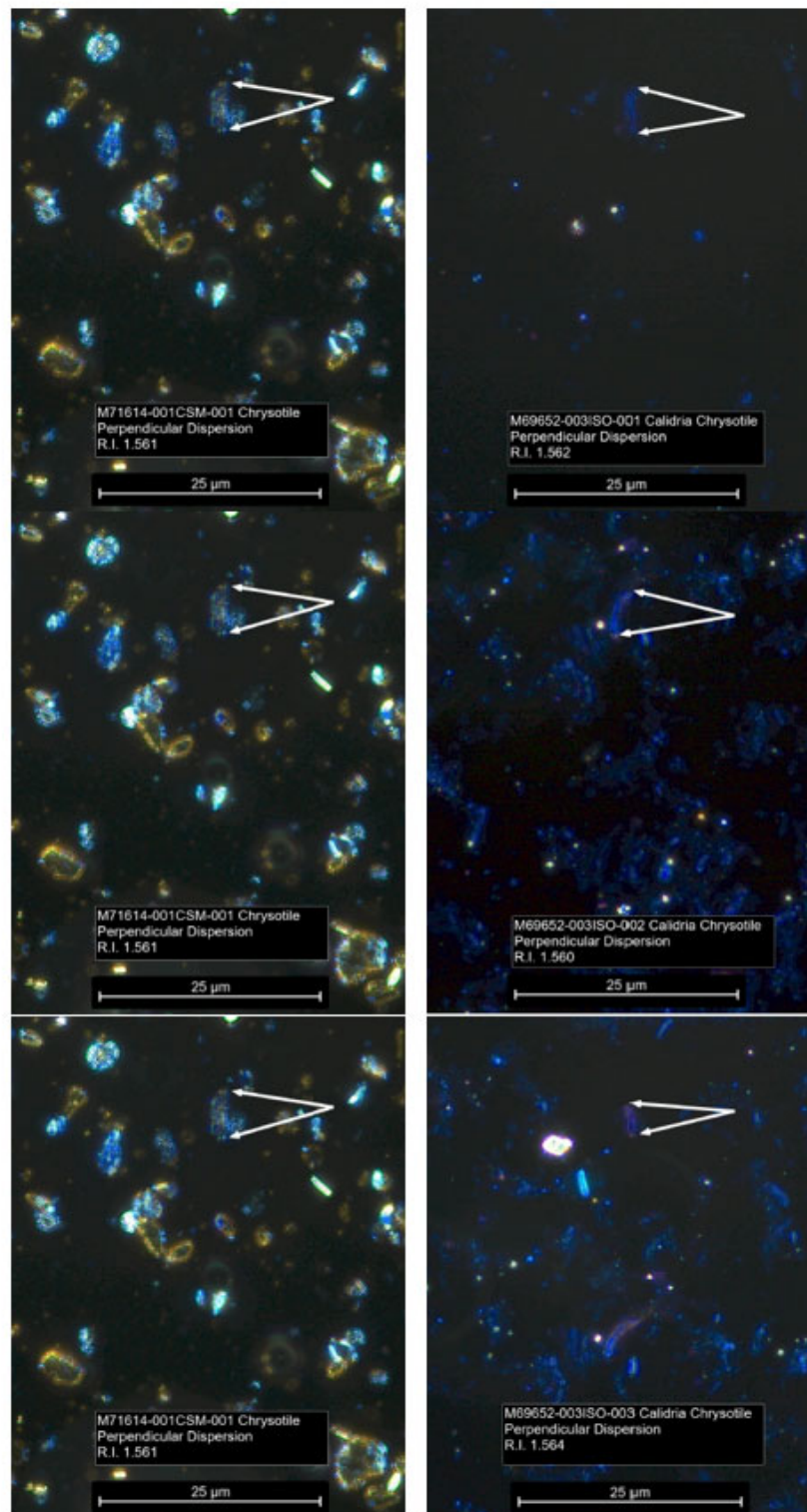


Figure 8b. Images on the left are “M71614-001CSM-001” particle compared to the three particles (right) identified as Calidria by MAS. In no case are the CSDS colors the same.



Figure 9a. Images on the left are “M71614-001CSM-002” particle compared to the three particles (right) identified as Calidria by MAS. In no case are the CSDS colors the same.

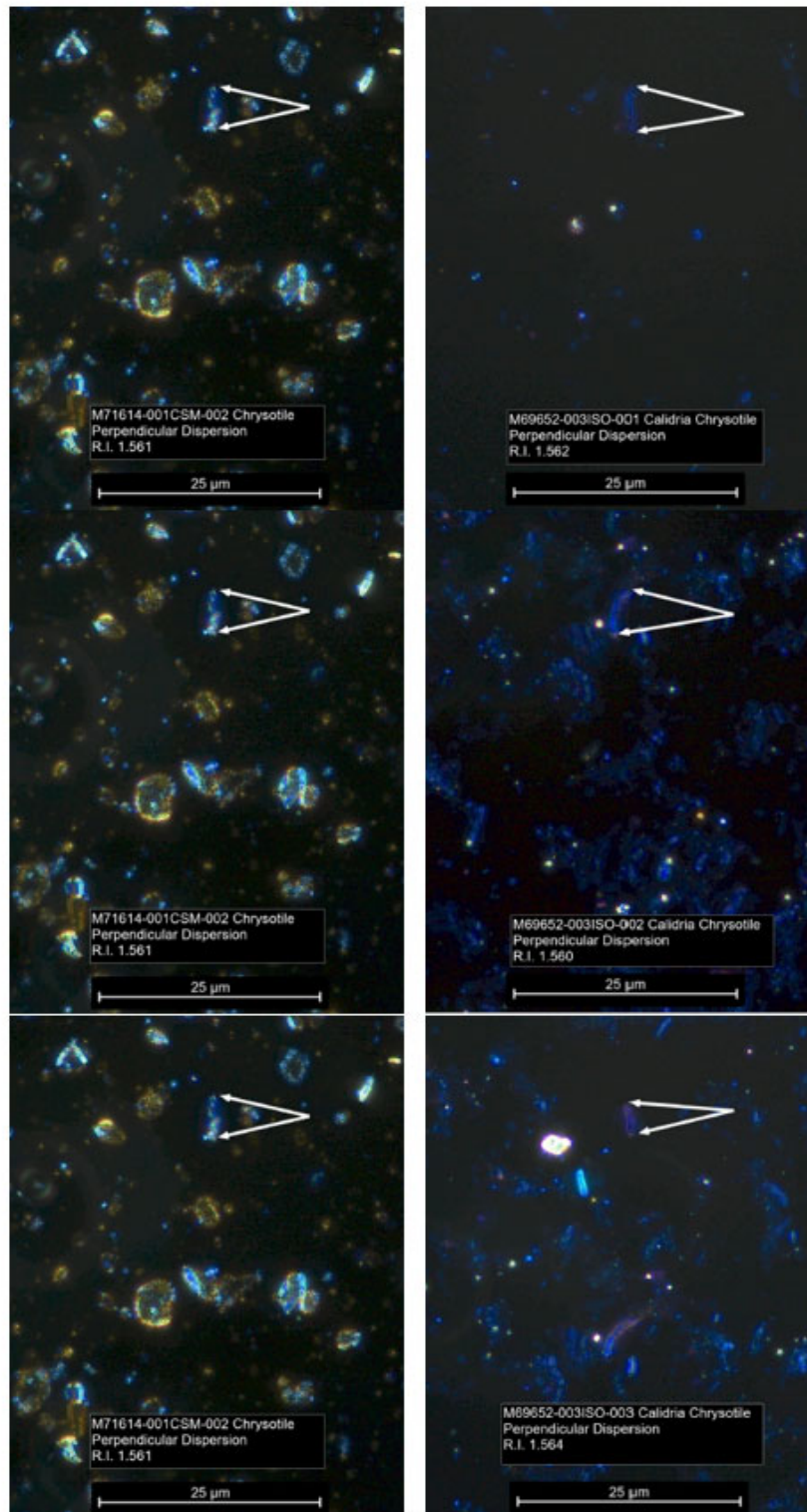


Figure 9b. Images on the left are “M71614-001CSM-002” particle compared to the three particles (right) identified as Calidria by MAS. In no case are the CSDS colors the same.



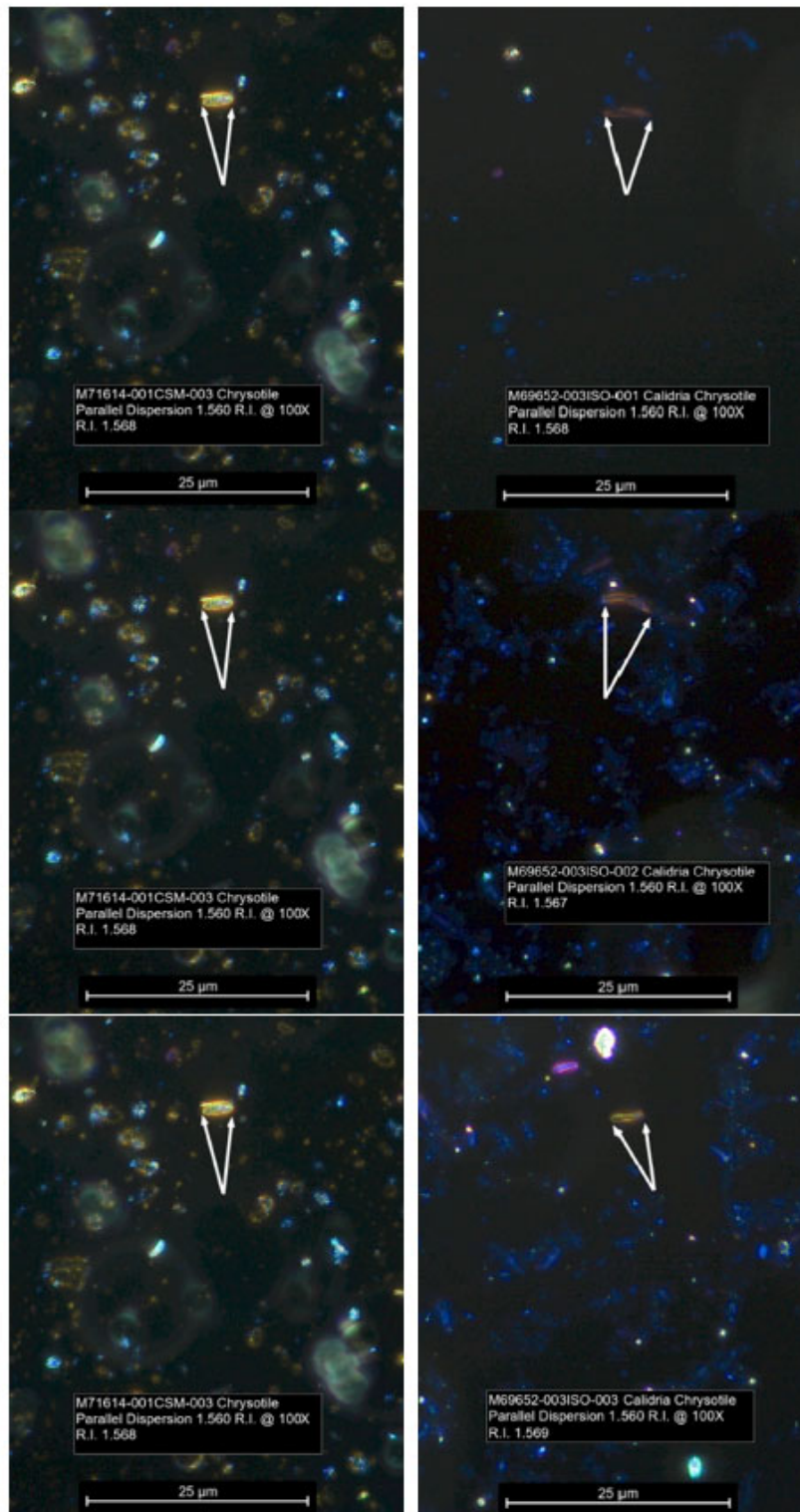


Figure 10a. Images on the left are “M71614-001CSM-003” particle compared to the three particles (right) identified as Calidria by MAS. In no case are the CSDS colors the same.

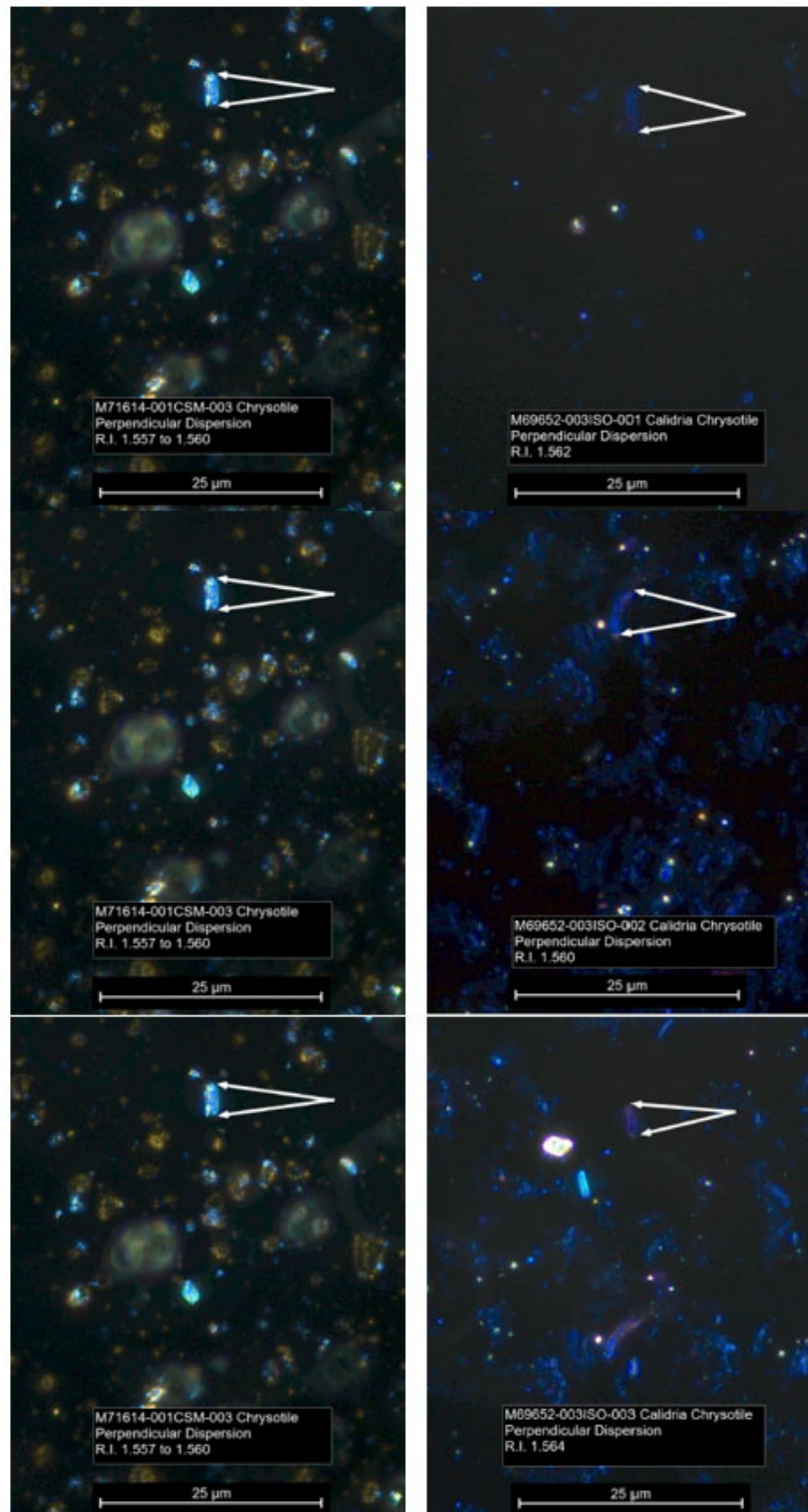


Figure 10b. Images on the left are “M71614-001CSM-003” particle compared to the three particles (right) identified as Calidria by MAS. In no case are the CSDS colors the same.

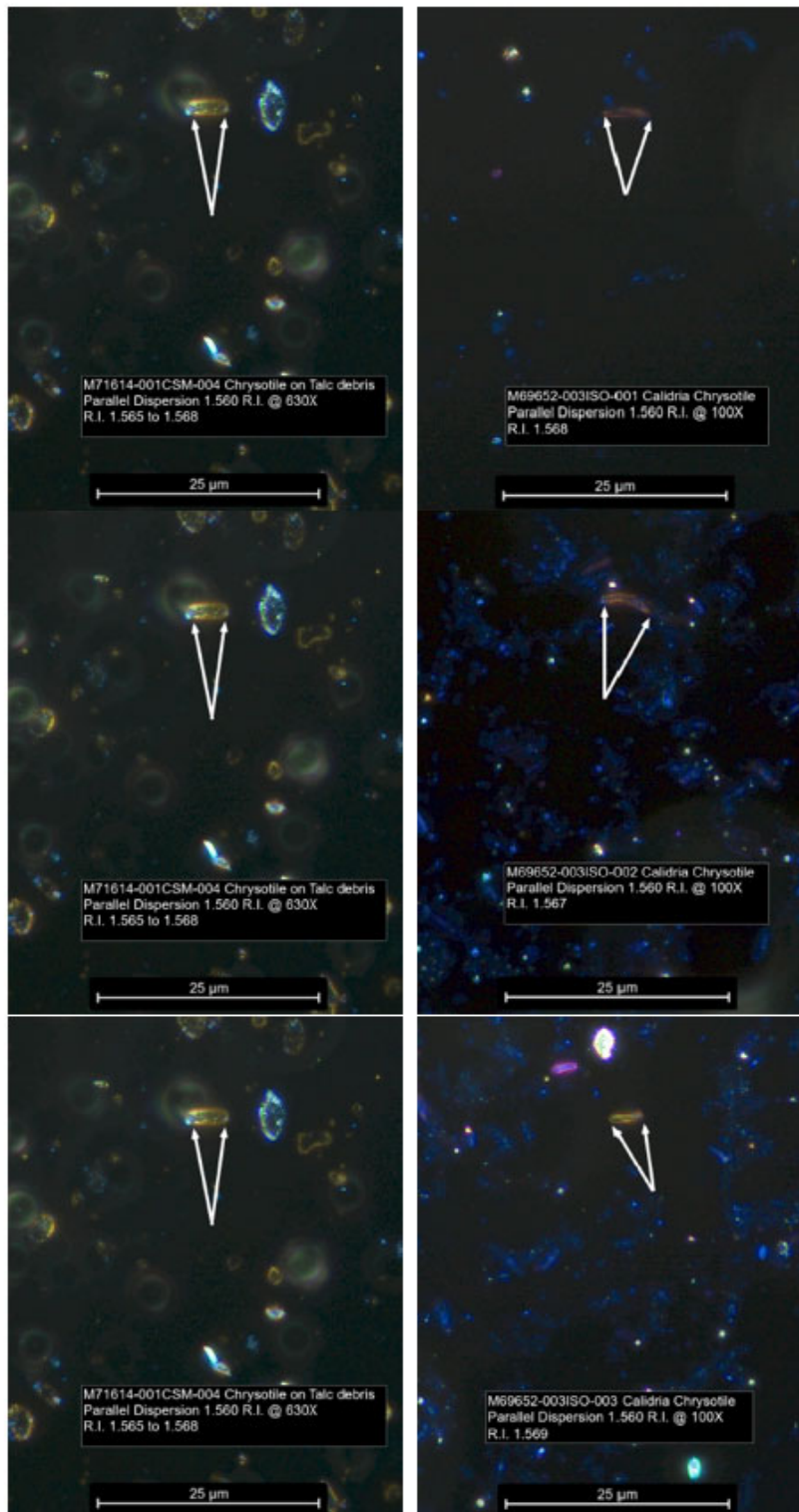


Figure 11a. Images on the left are “M71614-001CSM-004” particle compared to the three particles (right) identified as Calidria by MAS. In no case are the CSDS colors the same.



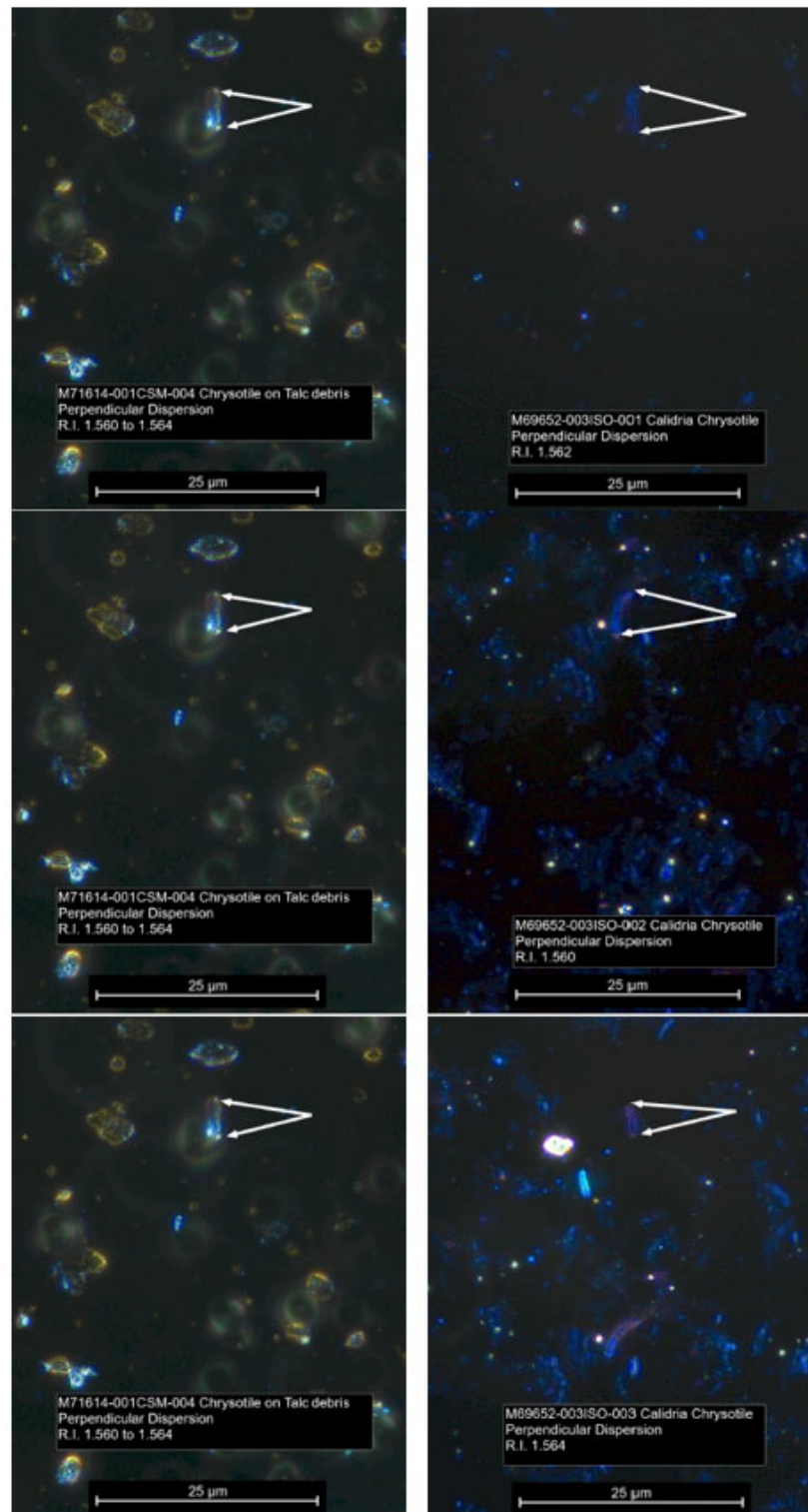


Figure 11b. Images on the left are “M71614-001CSM-004” particle compared to the three particles (right) identified as Calidria by MAS. In no case are the CSDS colors the same.



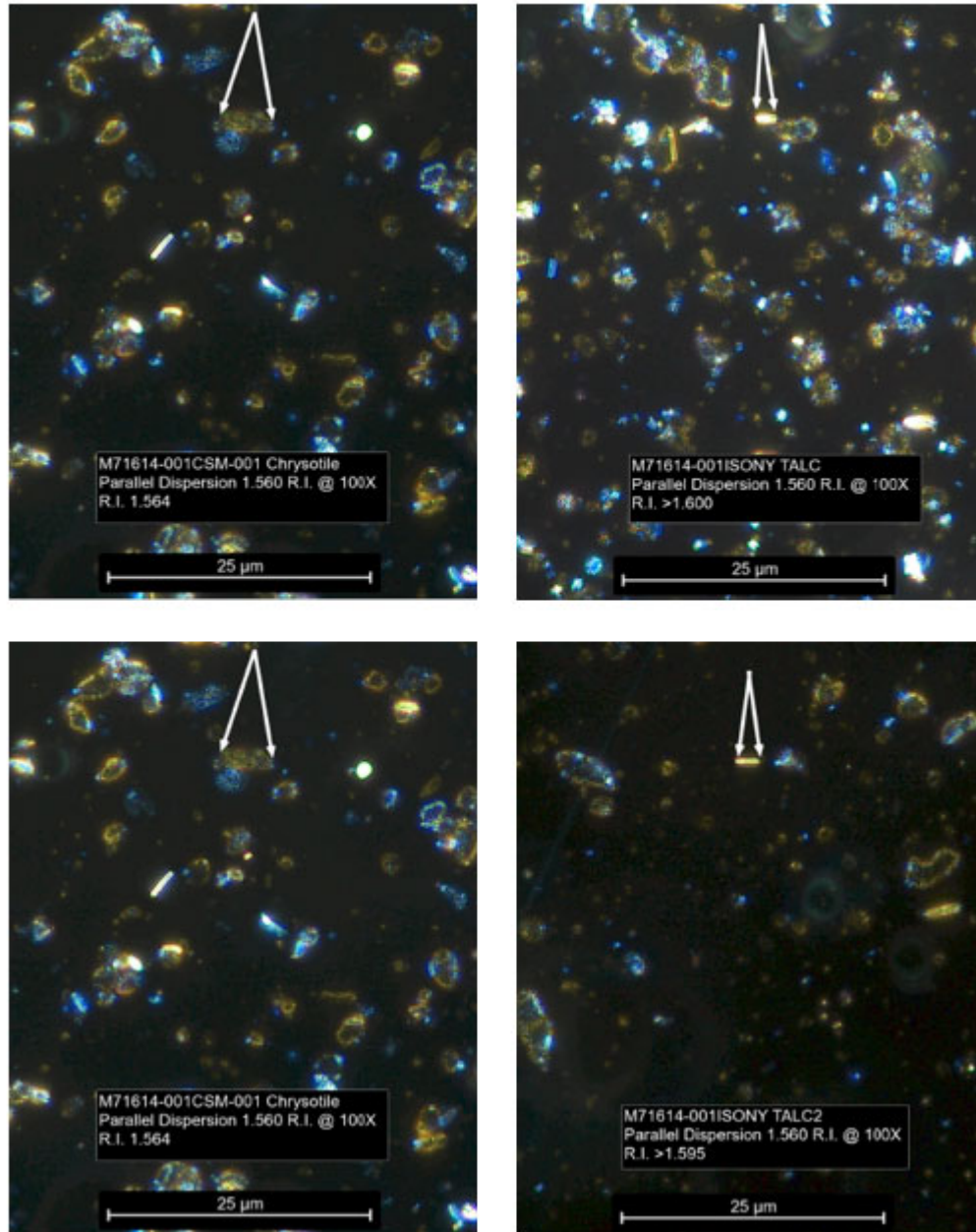


Figure 12a. Images on the left are “M71614-001CSM-001” particle compared to the two particles (right) identified as talc by MAS. In this case the CSDS colors are the same.

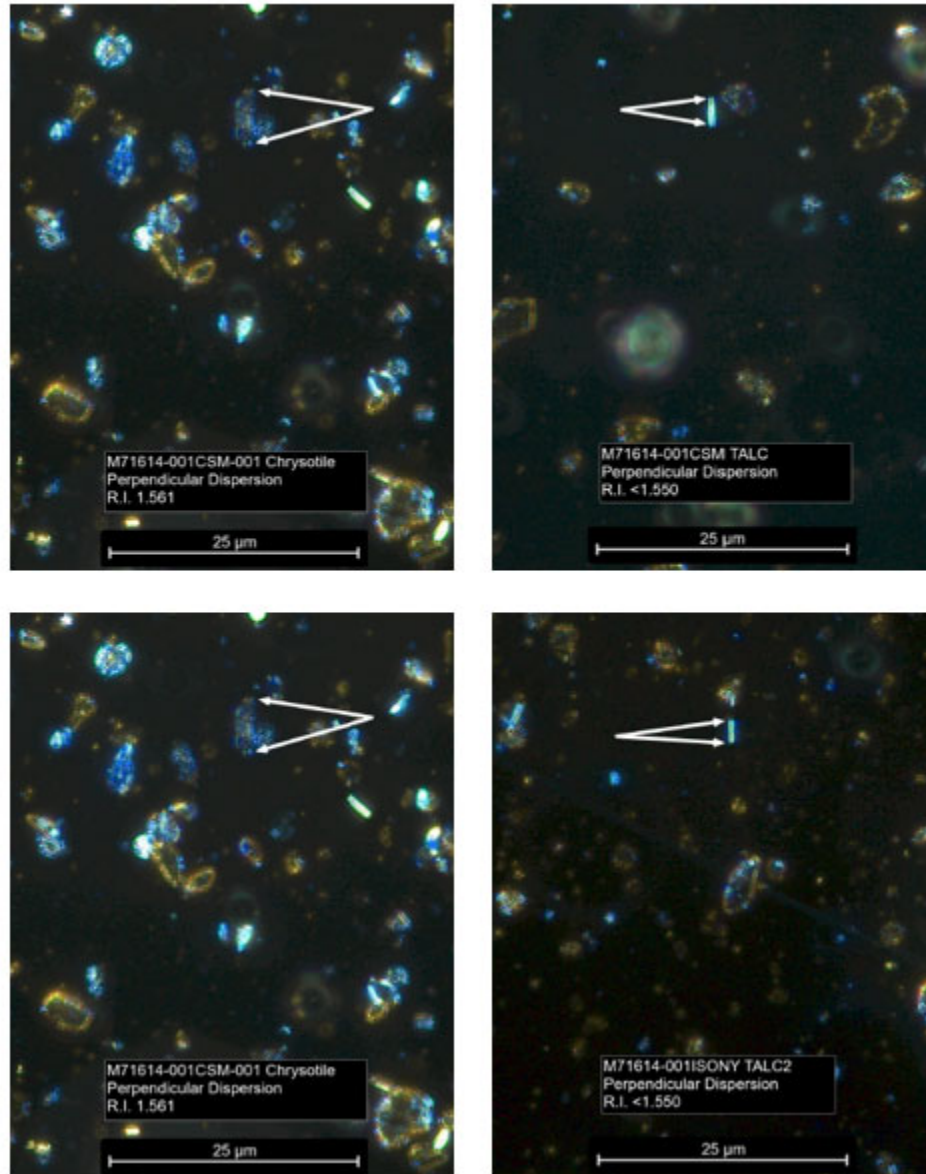


Figure 12b. Images on the left are “M71614-001CSM-001” particle compared to the two particles (right) identified as talc by MAS. In this case the CSDS colors are the same.

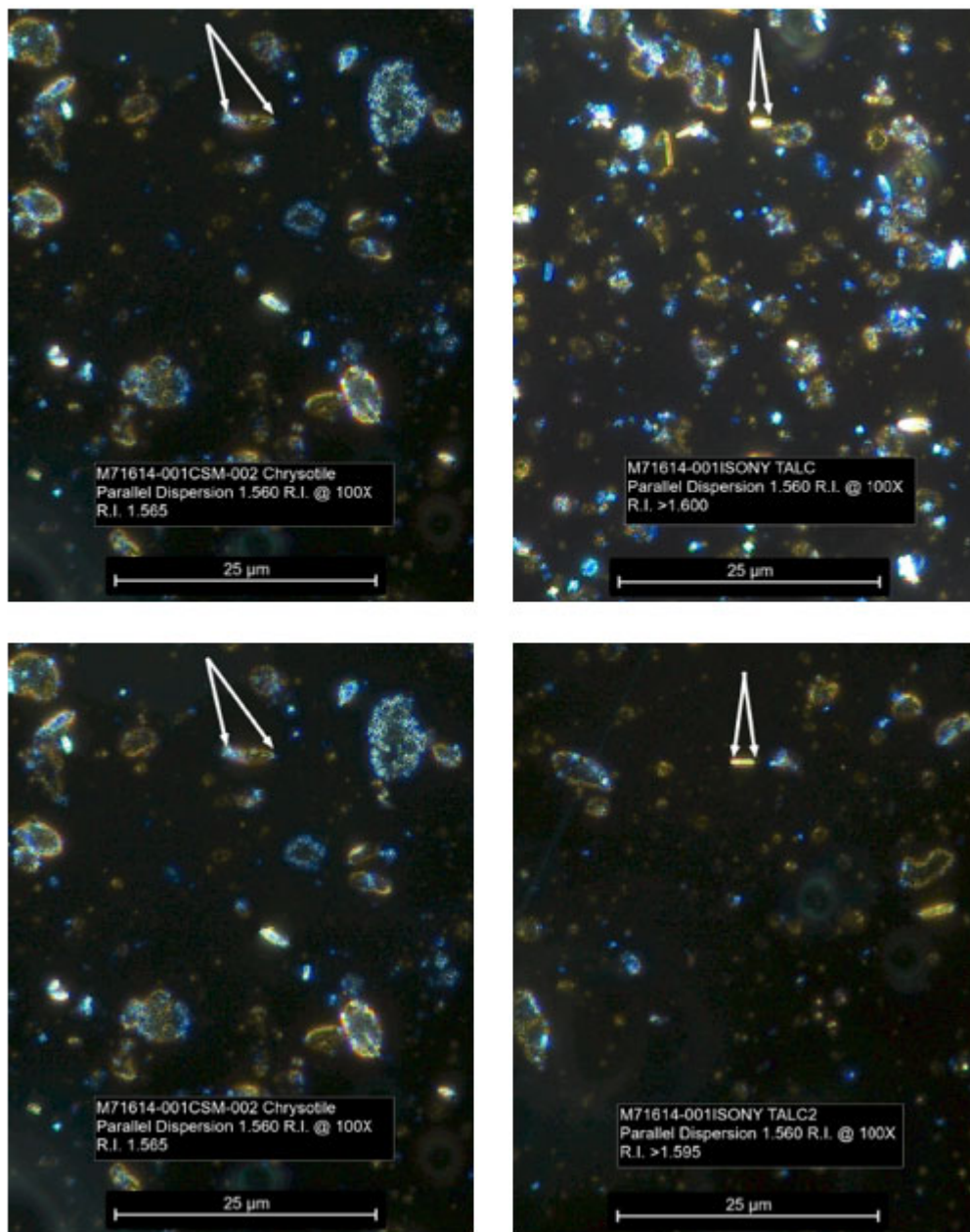


Figure 13a. Images on the left are “M71614-001CSM-002” particle compared to the two particles (right) identified as talc by MAS. In this case the CSDS colors are the same.



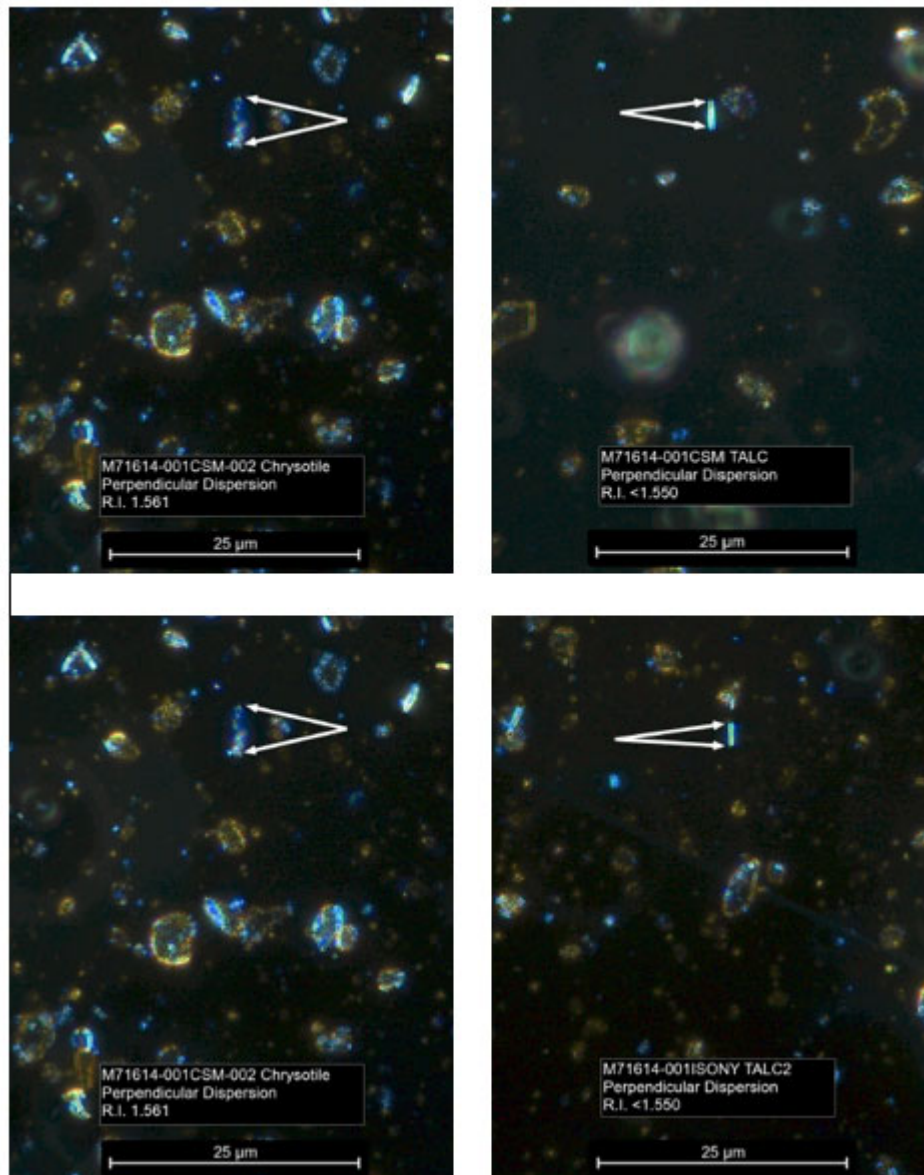


Figure 13b. Images on the left are “M71614-001CSM-002” particle compared to the two particles (right) identified as talc by MAS. In this case the CSDS colors are the same.



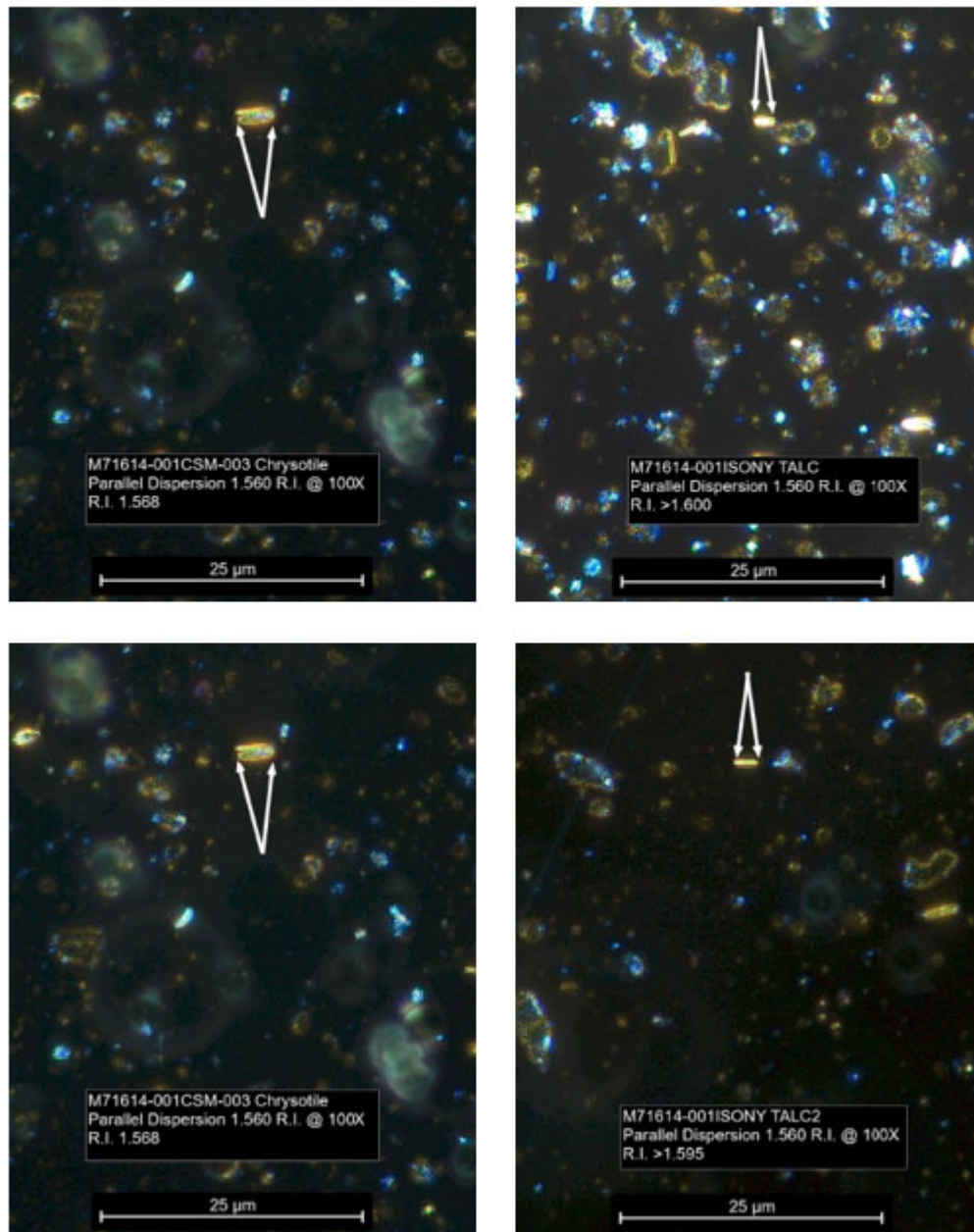


Figure 14a. Images on the left are “M71614-001CSM-003” particle compared to the two particles (right) identified as talc by MAS. In this case the CSDS colors are the same.

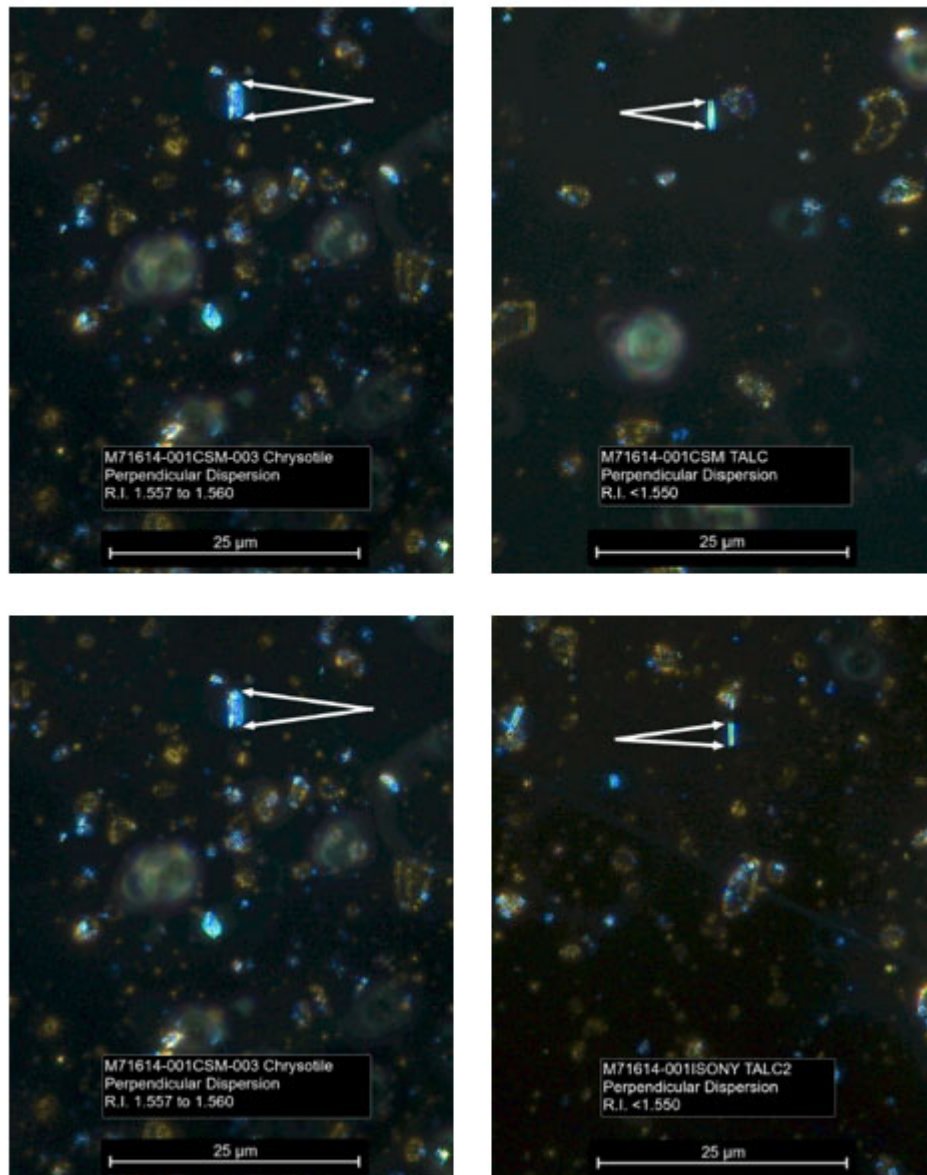


Figure 14b. Images on the left are “M71614-001CSM-003” particle compared to the two particles (right) identified as talc by MAS. In this case the CSDS colors are the same.

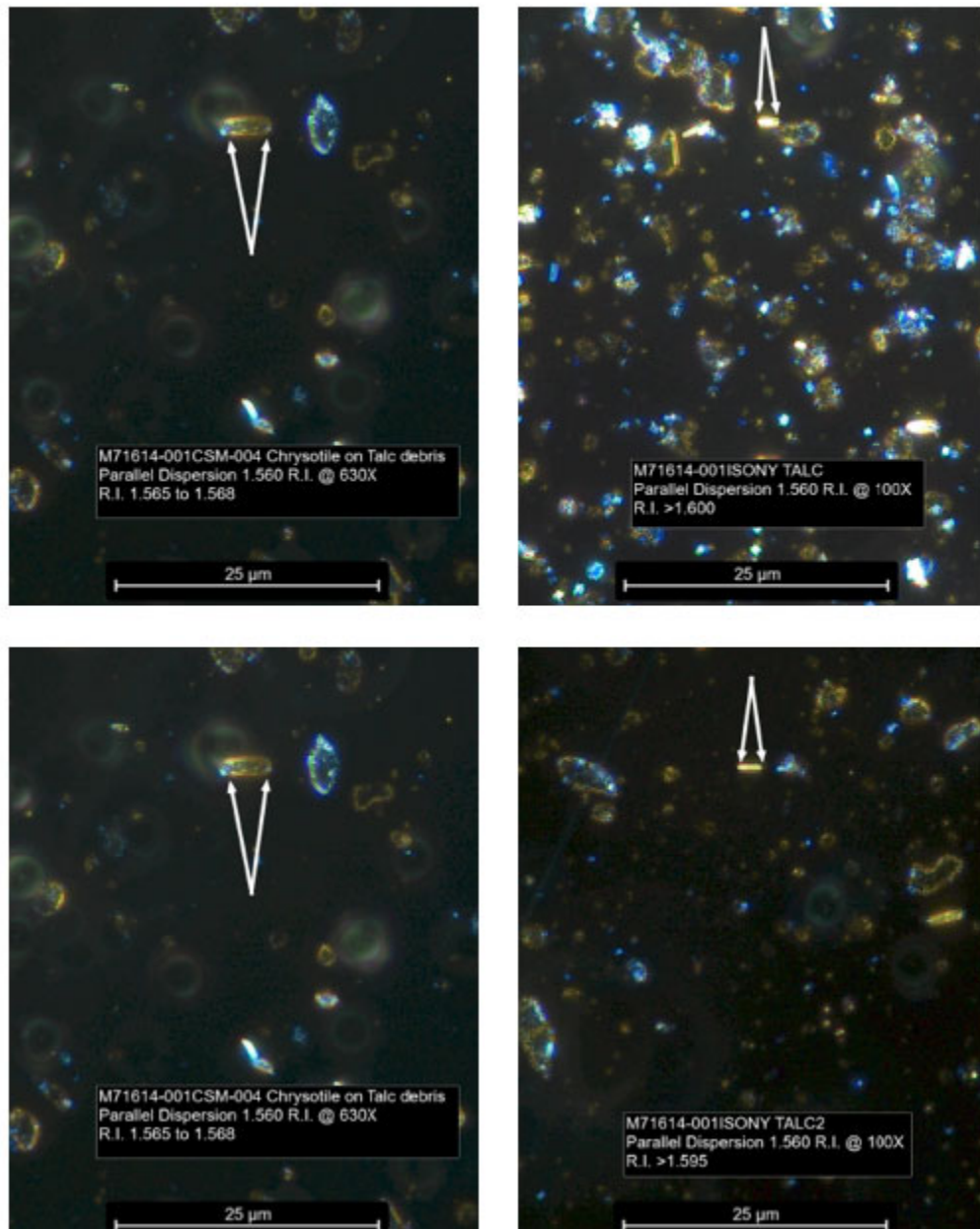


Figure 15a. Images on the left are “M71614-001CSM-004” particle compared to the two particles (right) identified as talc by MAS. In this case the CSDS colors are the same.

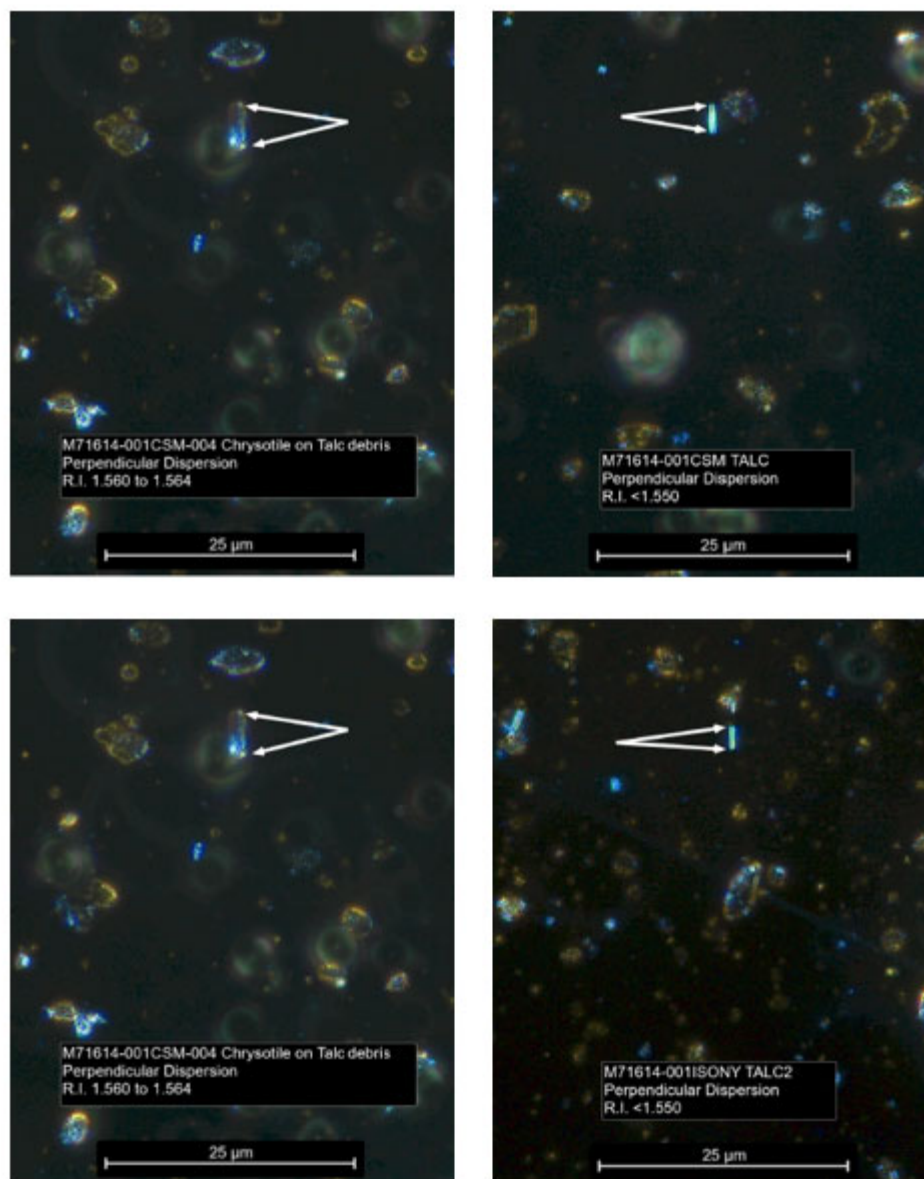


Figure 15b. Images on the left are “M71614-001CSM-004” particle compared to the two particles (right) identified as talc by MAS. In this case the CSDS colors are the same.



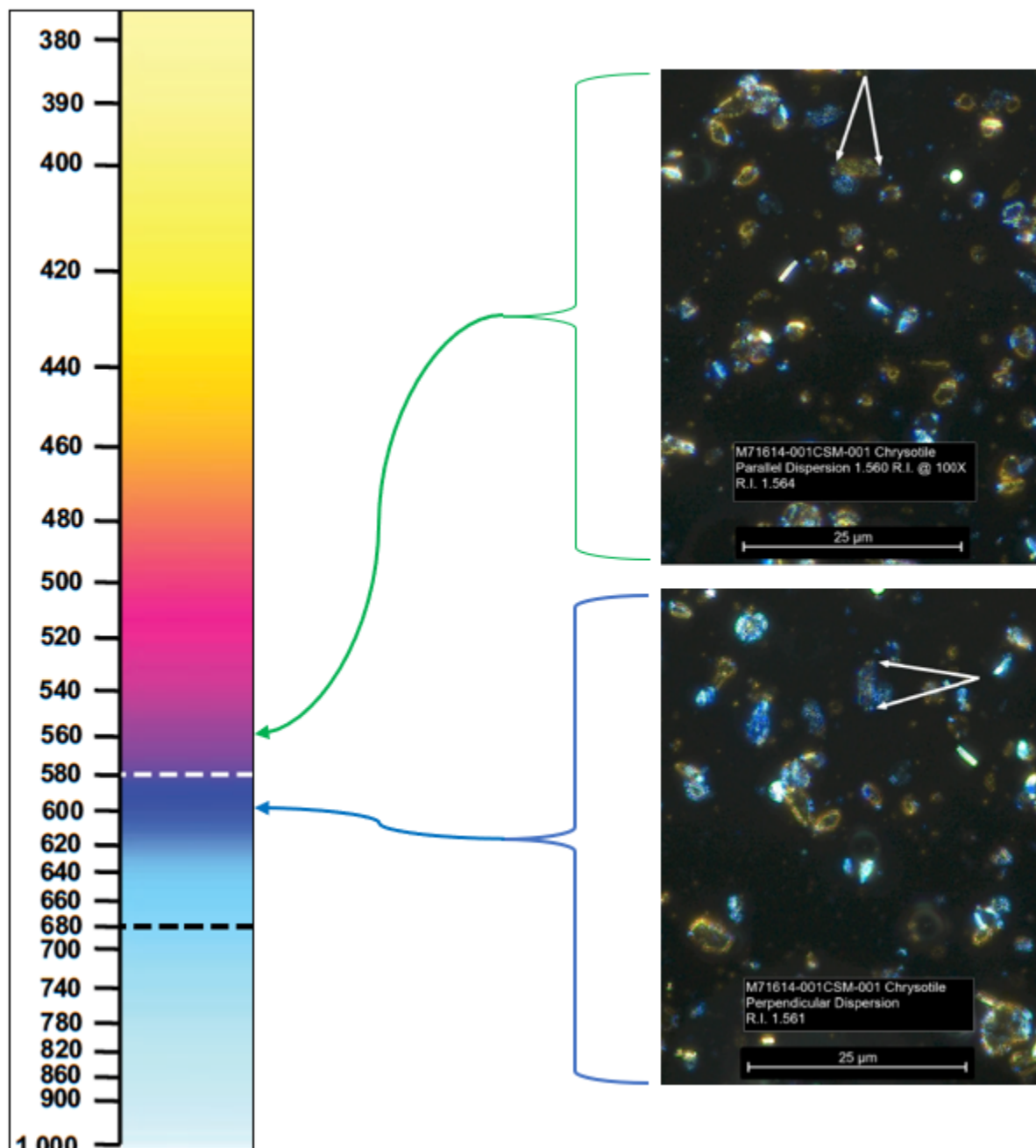


Figure 16a. MAS interpreted refractive index (n) values plotted next to the dispersion staining colors with n converted to  $\lambda_0$  converted to nm values. The green arrow points to the alleged observed color that correlates to the reported refractive index value in the parallel direction. The observed color is clearly not that which corresponds with 560nm. The blue arrow points to the alleged observed color that correlates to the reported refractive index value in the perpendicular direction. The observed color is clearly not that which corresponds with 600nm. Compare values with Table 2.

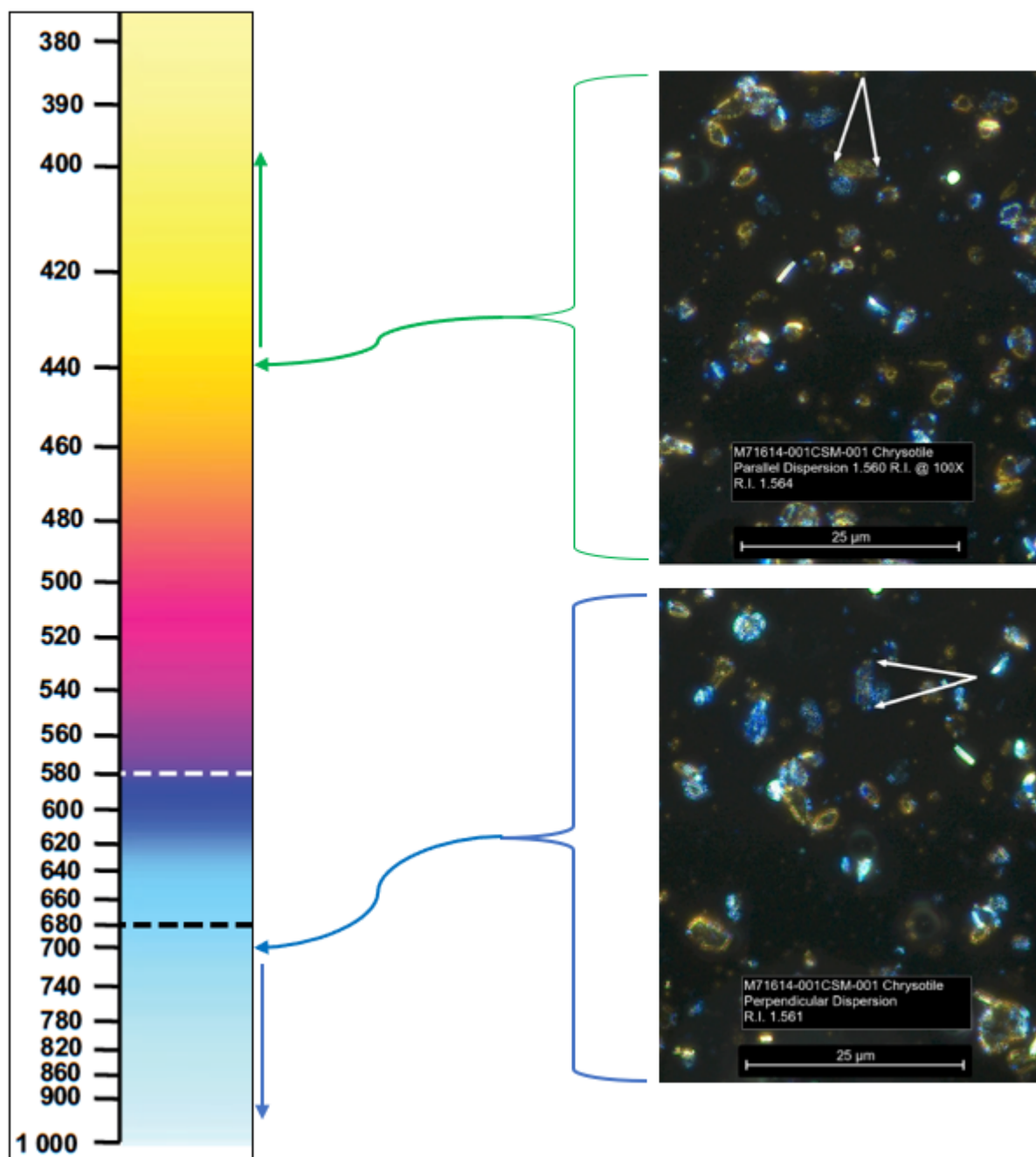


Figure 16b. My interpreted refractive index (n) values plotted next to the dispersion staining colors with n converted to  $\lambda_0$  converted to nm values. The green arrow points to the observed color in the parallel direction. The blue arrow points to the observed color in the perpendicular direction.

Compare values with Table 3.

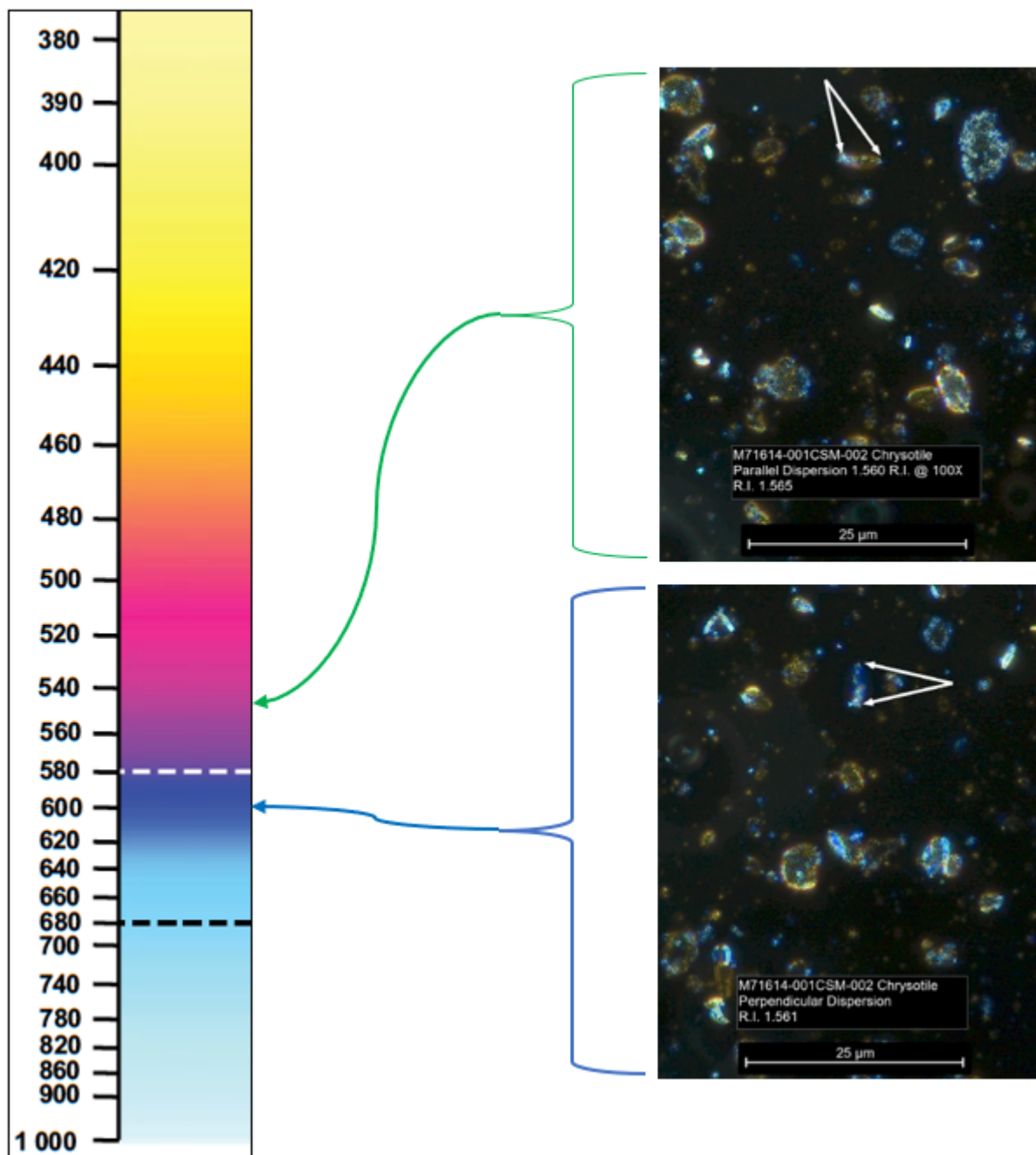


Figure 17a. MAS interpreted refractive index (n) values plotted next to the dispersion staining colors with n converted to  $\lambda_0$  converted to nm values. The green arrow points to the alleged observed color that correlates to the reported refractive index value in the parallel direction. The observed color is clearly not that which corresponds with 560nm. The blue arrow points to the alleged observed color that correlates to the reported refractive index value in the perpendicular direction. The observed color is clearly not that which corresponds with 600nm. Compare values with Table 2.

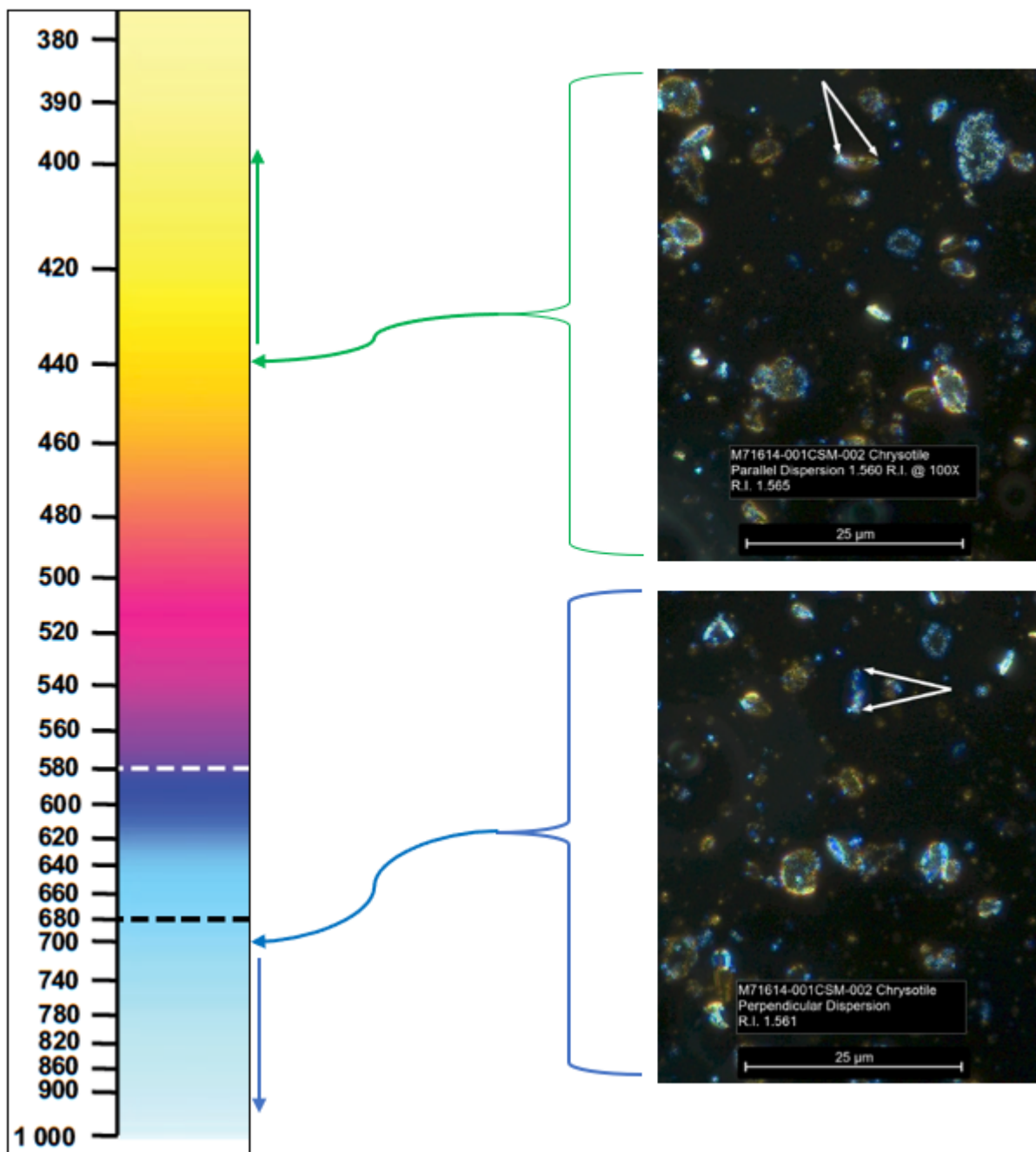


Figure 17b. My interpreted refractive index (n) values plotted next to the dispersion staining colors with n converted to  $\lambda_0$  converted to nm values. The green arrow points to the observed color in the parallel direction. The blue arrow points to the observed color in the perpendicular direction. Compare values with Table 3.



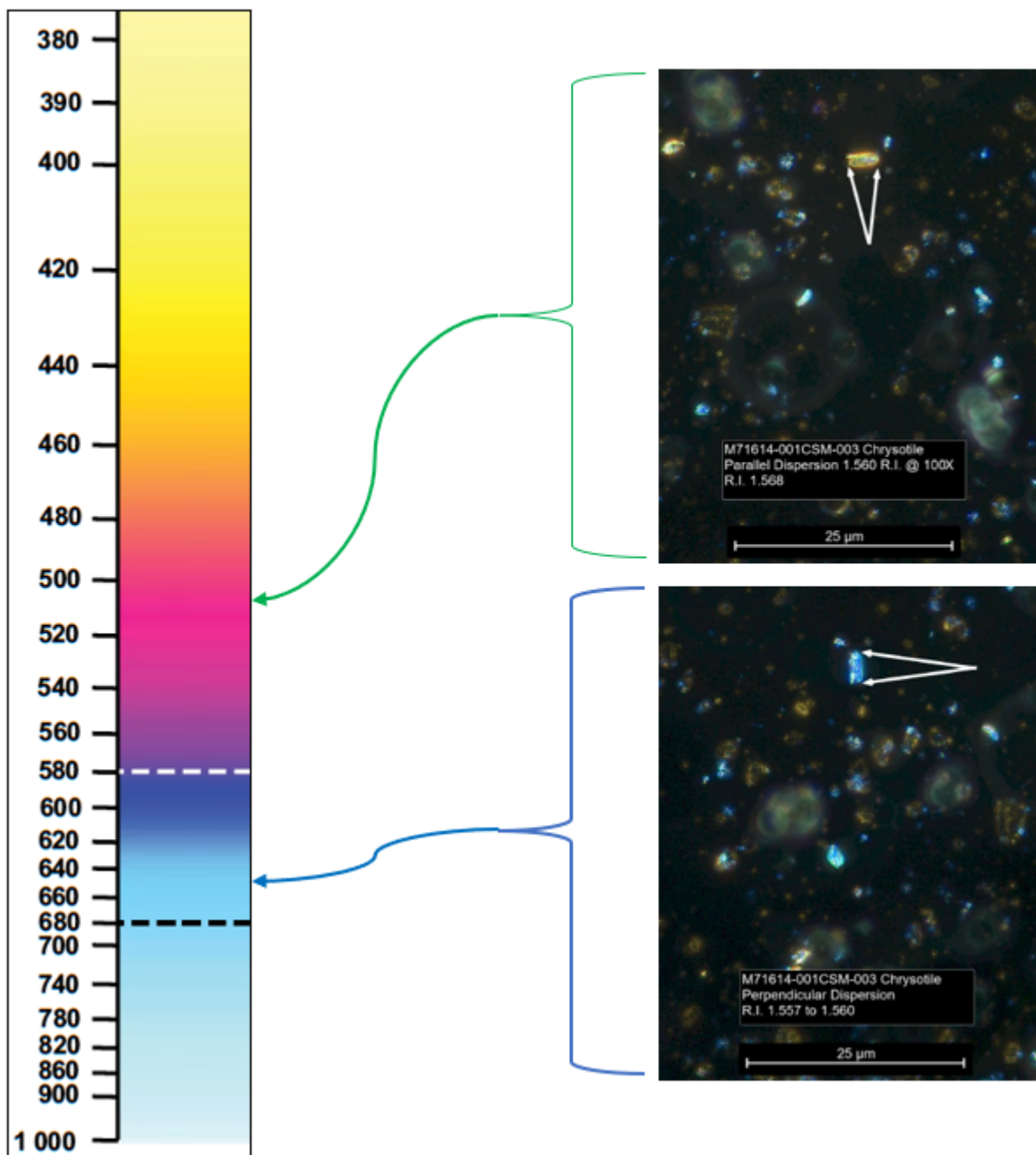


Figure 18a. MAS interpreted refractive index (n) values plotted next to the dispersion staining colors with n converted to  $\lambda_0$  converted to nm values. The green arrow points to the alleged observed color that correlates to the reported refractive index value in the parallel direction. The observed color is clearly not that which corresponds with 560nm. The blue arrow points to the alleged observed color that correlates to the reported refractive index value in the perpendicular direction. The observed color is clearly not that which corresponds with 600nm. Compare values with Table 2

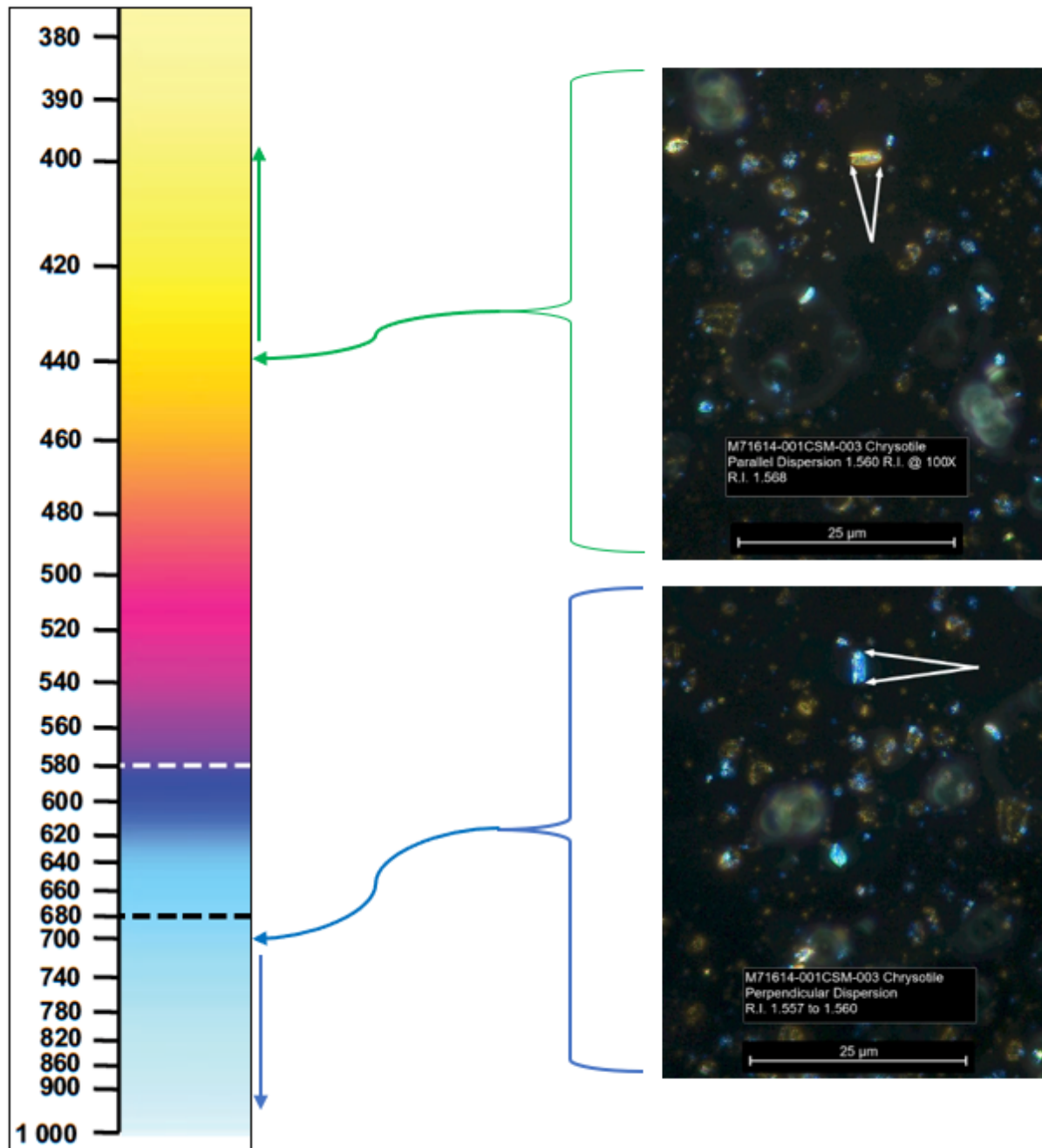


Figure 18b. My interpreted refractive index ( $n$ ) values plotted next to the dispersion staining colors with  $n$  converted to  $\lambda_0$  converted to nm values. The green arrow points to the observed color in the parallel direction. The blue arrow points to the observed color in the perpendicular direction. Compare values with Table 3.

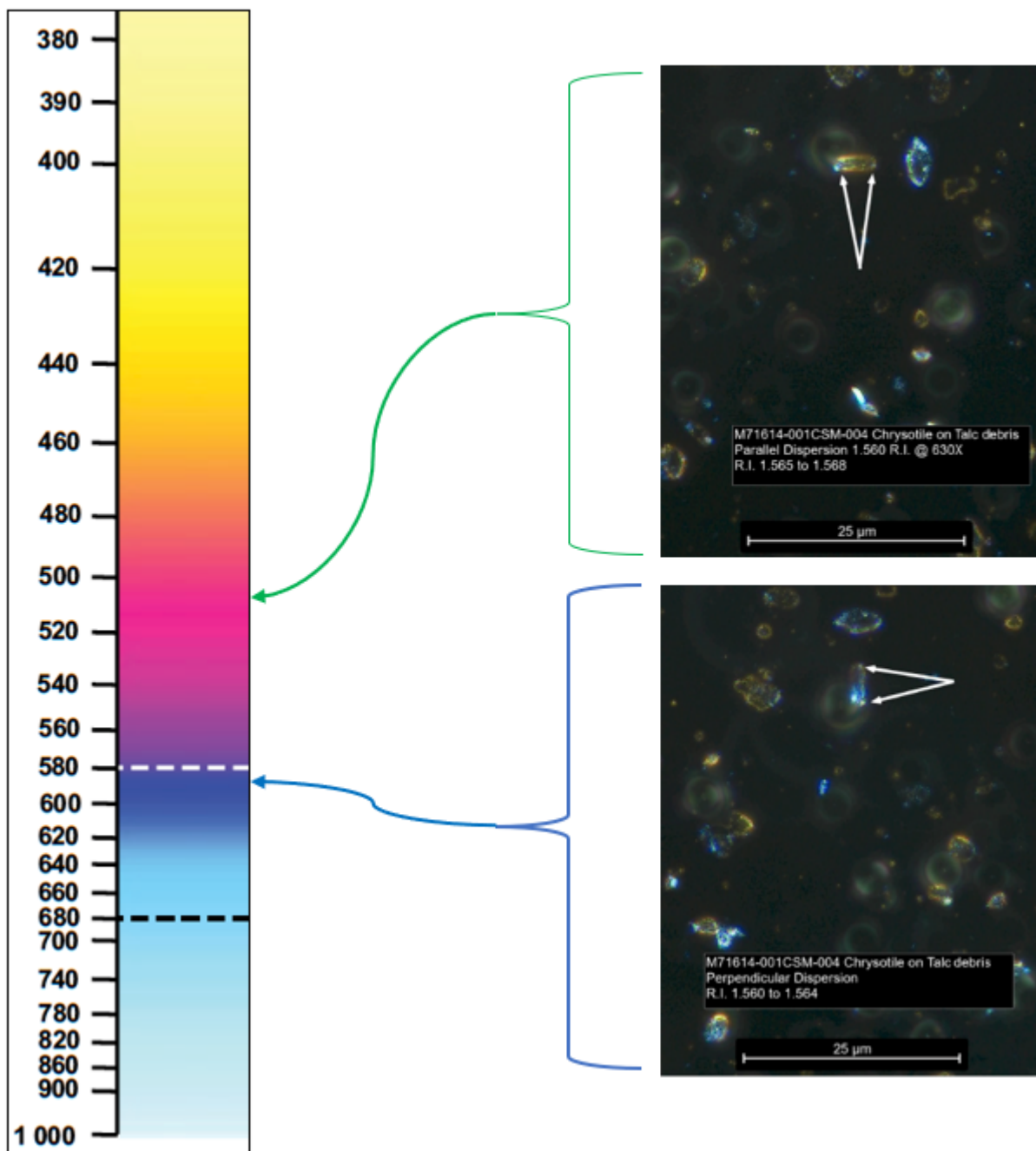


Figure 19a. MAS interpreted refractive index ( $n$ ) values plotted next to the dispersion staining colors with  $n$  converted to  $\lambda_0$  converted to nm values. The green arrow points to the alleged observed color that correlates to the reported refractive index value in the parallel direction. The observed color is clearly not that which corresponds with 560nm. The blue arrow points to the alleged observed color that correlates to the reported refractive index value in the perpendicular direction. The observed color is clearly not that which corresponds with 600nm. Compare values with Table 2.

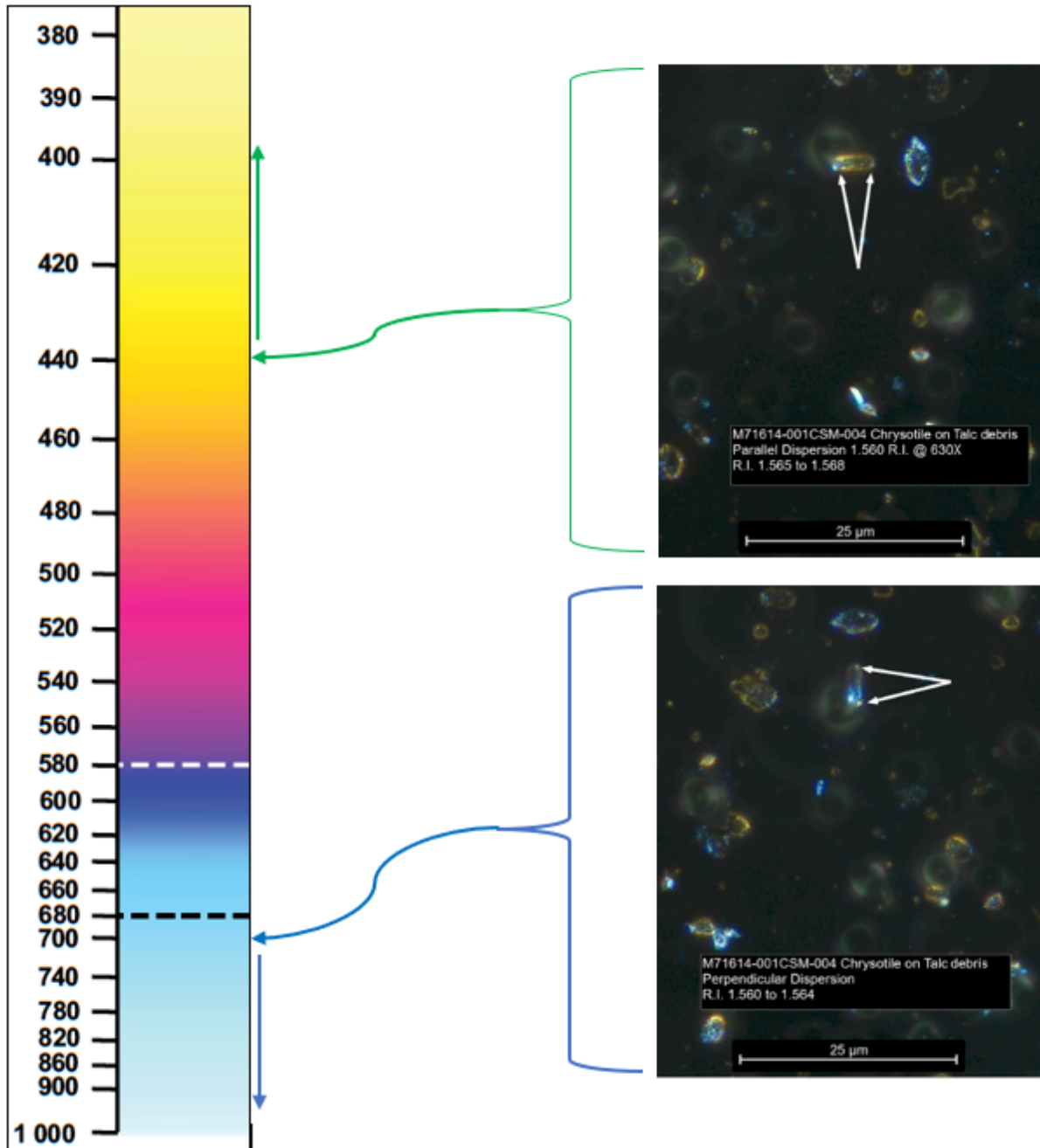


Figure 19b. My interpreted refractive index (n) values plotted next to the dispersion staining colors with n converted to  $\lambda_0$  converted to nm values. The green arrow points to the observed color in the parallel direction. The blue arrow points to the observed color in the perpendicular direction. Compare values with Table 3.



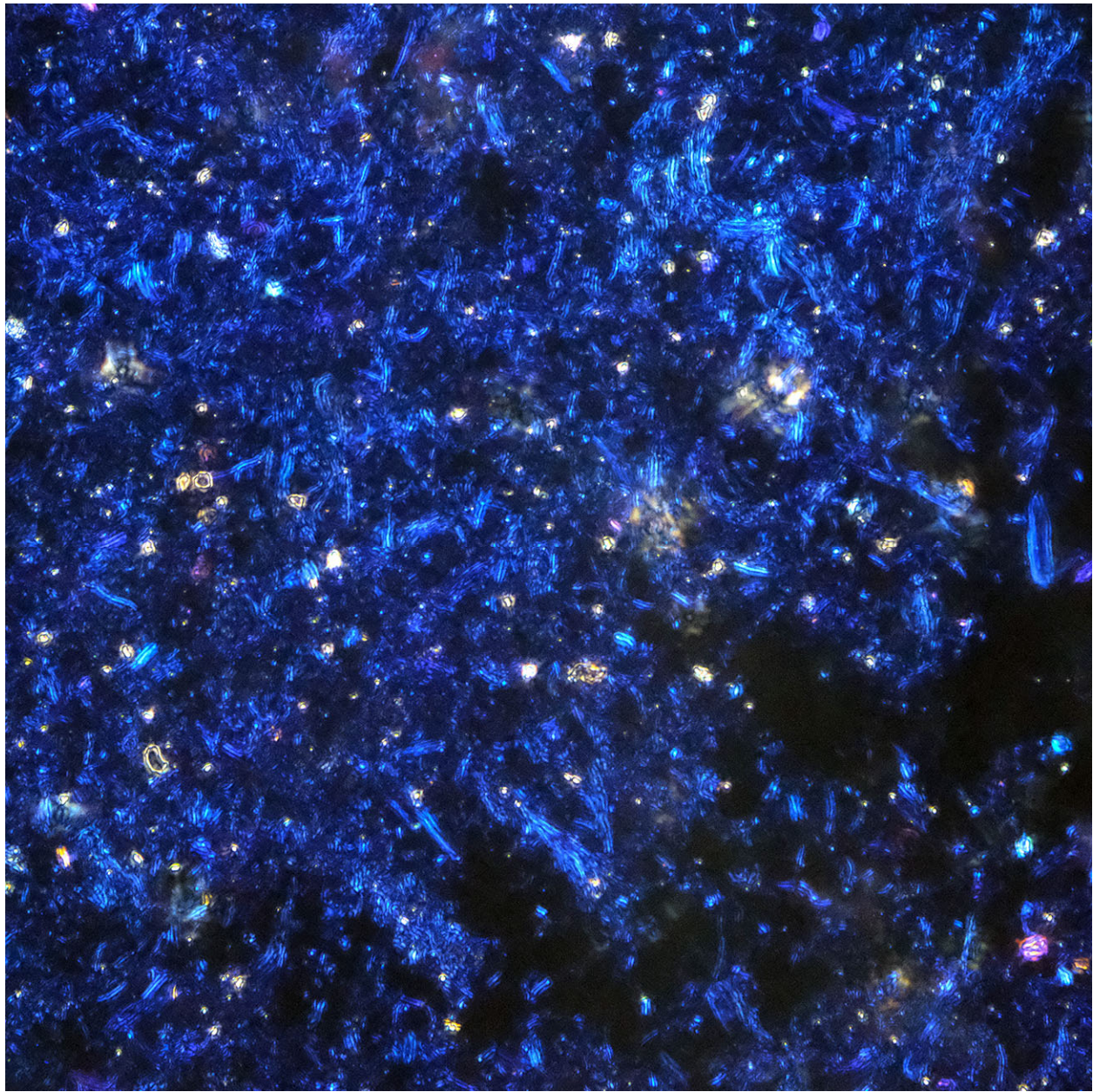


Figure 29. Typical PLM Field of view of Calidria Chrysotile CSDS image in 1.560 Cargille E liquid.